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HOW TO REMEMBER

HOW TO REMEMBER

*WITHOUT MEMORY SYSTEMS
OR WITH THEM*

BY

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THIS BOOK IS DEDICATED

TO

G. F. STOUT, Esq., M.A.

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PREFACE.

POSTERITY will scarcely believe that this generation had daily before its eyes so many clear lessons on the easiest ways of remembering, and that it failed to profit by these lessons. So far behind our Advertisers have our Teachers lagged. The former generally succeed in interesting and teaching the public, and in impressing their ideas almost indelibly upon the minds and memories of the public. The latter frequently fail.

Now, setting aside the consideration of *what* the Advertisements teach, and asking simply *how* they teach, we are likely to arrive at very interesting results, which will become very important results if once we realise that our various powers and faculties were given us to be used, and not to be left unused or even scorned. Thus our power of remembering by means of Rhythms and Rhymes was surely intended to be applied to all sorts of things that are worth remembering, and not merely to one small class of them.

It has been the fashion to condemn *all* Systems of Memory as unnatural or even as positively 'low' and degrading: it has been maintained practically, if not in so many words, that it is far better for

the schoolboy to be the veriest parrot or phonograph, accurately reproducing his text-book or his teacher's words, with only the vaguest idea as to what they mean or how they can be applied, than for him to make use of *any* artificial 'aid to memory'. 'Memory-Systems', however different from one another they may be in their main characteristics or in their details, are all grouped together in a single class and labelled as rubbish or something worse than rubbish. But the learning by 'heart'—'heart' forsooth!—the usually dull and often unreliable learning by 'heart', the very treadmill of education, *that* must be one of the chief kinds of mental exercise! I am speaking here particularly of the old-established English methods of Education.

As the reader will start reading this book with an inevitable bias against it, I would ask him to be so kind as to listen to a few words first.

I assure him, to begin with, that this book is not a mere collection of 'Systems': 'Systems' are included, it is true, and among these, it is true, there are 'Systems' which can be, and frequently have been, most shamefully misused. But the careful reader will notice that these 'Systems' come in the second places in the book; moreover he will notice that they are not all necessarily 'short cuts for the lazy'; and he will candidly admit that even short cuts are not always an unmitigated curse.

I ask the reader to come to the book with a determination to hear at least a part of it before he decides against it: I ask him, for instance, to do me the favour of reading through the *example* worked out in Part II. (this shows the various Helps and 'Systems' actually at work), and the *answers to objections*, in Section XLVII.; then, if he will still go on, let him glance at the *advantages* of these methods and 'Systems', in Section XLIII. If he will have the boldness to use his reasoning powers freely and confidently, I think he will agree that some of the suggestions demand a fair trial as their right and due.

Throughout the work I shall try to appeal to his intelligence and common sense and experience, rather than to the statements of any celebrated authority. I shall say to him, for instance: 'Does it help you to remember the shape of *Italy* when you see that it is like a booted *leg* stepping towards the left?' He will at once candidly admit that it does. 'But', I shall say, 'why does this help you?' He will answer 'Because the booted leg is more familiar to me: it is a thing I know already'. 'Well then', I shall say, 'is there any reason why you should confine to only a few instances this excellent method of remembering one thing by means of a second thing which is like it, and which is more familiar to you (see the System in Section XXV.) than the first thing is? Is there any reason', I shall ask, 'why

you should not remember the shape of *England* by a similar method? Is there any reason why you should not find out for yourself something which looks *like* England in shape, but is more familiar to you, and therefore easier to remember, than the map of England is? Is there any reason why you should refuse to use this plan until you have seen it applied to England by some one else, e.g. in a Geography Book?' He will answer that there is no reason, and I will then show him how he can work out this plan for himself.

Again, I will ask him whether he sees puns and riddles. He will—with a sigh—admit that he cannot help doing so. Why does he see them? What does the 'faculty' of seeing puns mean? What is a pun? What is there to connect the words 'examination' and 'eggs-hammy-nation', 'idiosyncrasies' and 'hideous-ink-races', 'incolārum' and 'ink-alarum'? There is a similarity of sound and rhythm. In the case of 'asparagus' and 'sparrow-grass' (Section XXIII.) there is also some connexion of meaning. Now, if such connexions (of sound and meaning) may be used for such execrable purposes as puns and riddles, why should they not be used for remembering things which are *worth* remembering? If we have such a 'faculty' that we cannot help seeing the connexion between these words (or rather that we can scarcely succeed in forgetting it), why should we not turn the 'faculty' into a really good

channel . (as in the above - mentioned System)? Why should it not be employed? Why should it not become our faithful servant that may remember certain things for us both quickly and easily and surely? Why should not puns become a something better than a torture analogous (it has been said), to tickling? Is this a degradation of our 'faculties'?

I leave the open-minded and thoughtful reader to answer the question for himself.

I would suggest a similar instance of a 'faculty' which was given us to be used, viz. the faculty for remembering rhymes and rhythms and alliterations (Sections XXX., XXXI., XXXIII.). Why is it that such a sentence as 'The Pickwick, Owl, and Waverley Pens are a great blessing to mankind' may fail to settle itself in our memory, whereas

*' They come as a boon and a blessing to men
The Pickwick, the Owl, and the Waverley Pen '*

stick for ever and cannot be dislodged? Of course, it is the Rhythm, and the Rhyme, and the Alliteration of *boon*, *blessing*, *Pickwick*, and *pen*. Then is there *any* sound excuse for not applying such 'faculties' to a serviceable end? Let this question be thought out, leisurely and without bias.

I will appeal to the reason once again. Look into the treasure-house of the mind and see what ideas cling round the word 'omnibus': do you think,

perhaps, of drivers and conductors, of tickets and cheapness, of rumbling and slowness, of green or yellow, of Tottenham Court Road or Piccadilly, and, by way of contrast, of trams and cars and cabs and trains? Can anyone succeed—try as he will—in cutting off these associations from the word ‘omni-bus’, as he might cut off the cakes of mud from a boot? No. Well then, there are these associations ready to hand and always in the mind: and shall we refuse to turn them to a fine employment? We undoubtedly have the materials—vast heaps of materials which would otherwise be unused, like things in a lumber-room—and we have the ‘faculties’ for using them as a means—a swift and easy and sure means—of remembering most things we wish to remember. Would it be ‘low’ to apply these materials and these ‘faculties’ to such an end? In our heart of hearts we cannot think that it would.

My plan, then, has been to find undoubted *examples* of things which all or most of us remember very easily and surely; to examine *why* we remember them; and then to see what *methods and means* of remembering may be suggested by these examples.

These methods and means I have classified and put into *formulas*, so that the reader may

- (a) make experiments for himself; then
- (b) adopt and employ just whichever suits him

best for any given subject; and meanwhile—if he has the energy and patience—

(c) practise the rest one by one, so as to strengthen the weak points.

So I have really done little more than analyse, and classify, and apply to fresh instances, and show the reader how to apply for himself, those methods and means which most of us have already found valuable without knowing why.

I expect the reader, then, to try some of these methods and means for himself, and I shall be very grateful if he will let me know where the weak points seem to lie. Any suggestions and objections will be most welcome.

As to the Headings which I have chosen as examples, most of them are original, and most of them, I hope, will also be useful and worth remembering in themselves and not merely as illustrations of methods and 'Systems'. Thus the Causes of Rome's Success (in Part II.) may be of interest and value to all who care to know why *any* Nation has succeeded or failed in the past or is likely to succeed or fail in the future. The list of foods which I find it better to avoid may also be of use.

But the reader's own home-made examples will be the best for him.

In most subjects it will be found that very much will depend on the way in which the Headings to be remembered are learnt in the first place: and the

way of learning will include the selection and the rejection and the arrangement of ideas or Headings, the thorough 'realising' of the ideas or Headings themselves and of their connexion with one another (if any such connexion can be found). This, therefore, with some other helps, will be found in a prominent part of the book, followed by suggestions as to the uses of Comparisons and Contrasts and Repetitions. For details on these helps, I must refer the reader to what I have said on the subject of preparing Books, Essays, etc.*

Even here I have tried to bear in mind that the same methods and helps do not suit all people equally well. Some, for instance, will like to repeat certain Headings as ideas, others to repeat them as pictures in the mind, others to repeat them as words seen, others to repeat them as words said and heard, others to recall the surroundings amid which they received the early 'impressions' of these Headings.

And, if the variety of individuals is noticeable here, it is still more noticeable when we come to the 'Systems'. For this reason I have collected *all* the Systems that I could, so that each individual reader may try and then choose for himself.

I have advised the reader, still further on, *not to confine himself to any one single 'System'*, however well it may suit him, but rather to give all a fair

* 'How to Prepare Essays, Lectures, Articles, Books, Speeches, and Letters' (Rivingtons).

trial, to practise at odd moments those 'Systems' in which he is weakest, and above all to *vary his 'System' according to the nature of his subject*: for instance, to use 'Links' for a list of things to be done during the day, 'Initialising' for the list of Physical Exercises in the morning, and so on. Again, for the most important subjects I have advised the combination of two or more 'Systems', on the principle of having two strings to one bow, or a double lining to a bag.

One or two 'Systems' I have just mentioned but have not recommended very heartily—for instance, the Localising-system. This is partly because it does not suit me personally; but there may be some individuals whom such a 'System' may suit admirably.

Nearer to the end of the book I offer advice as to *how to practise*—a most important point: for I believe that there must be 'Principles of Practice' which will apply to all subjects equally, whether to writing, or to teaching, or to athletics. And I insist on fair and steady practice *on the right lines* as a *sine quâ non* of success here and everywhere.

One of the most astounding and incredible results of such practice of some of the 'Systems' has been, in my own case at any rate, that by degrees I have been able to dispense with the 'Systems' altogether: I came to apply them more and more rapidly every week, till now I find that I am often barely con-

scious if at all conscious of using them. Such a thing one can realise for piano-playing, for instance, where the good player must see at any rate *most* of the notes, and yet may cease to be conscious of seeing them. But that the memory will work almost or quite automatically according to a 'System' like the Link-System, must be experienced to be believed. It only shows how little weight the objection should have, that Memory-'Systems' weaken and destroy the memory. My memory is *in every respect* far stronger than it used to be.

Still nearer to the end of the book I have taken pains to point out the great *advantages* of methods and helps for the memory, and also the advantages of at least *some* of the 'Systems': I have enforced these remarks by mentioning a few of the *disadvantages of forgetting*.

At the very end I have collected the reasons, the *raisons d'être*, to justify both the methods and helps, and also the 'Systems'. I have tried to vindicate many of the latter from that careless accusation that they are 'against nature' (unless, indeed, incessant and unwilling forgetfulness be considered as the definition of 'nature').

Having given some idea of what the book *is*, let me now say what it *is not*.

It is not a book for those who may be described as having genius-memories, who remember excel-

lently by a sort of natural and unconscious instinct, just as others play games excellently, or do other things excellently, by a sort of natural and unconscious instinct; such people are, almost invariably, ignorant of *how* they remember: they only remember—that is all. But even for them, and perhaps more for them than for any others, this book may be a help, if they at any time are called upon to teach others. It is then above all that the instinctive genius is wont to fail so ignominiously: he cannot imagine that anyone should have to plod slowly step by step—he himself flies without pause or thought.

Nor does this book lay down any one hard and fast 'System' as *the* best. It insists on a fair personal experiment by the individual, and on a subsequent choice and selection of the fittest for *him*.

Nor does it profess to be a book free from objections: the objections given in Section XLVII. foll. make a formidable array, and the answers to some of them are bound to seem inadequate.

Nor, again, do I claim much originality for the book, except for its examples, its arrangement, its suggestion of using the Methods and 'Systems' in combinations and alternately, its 'Principles of Practice', and a few other features.

This book does not advocate a mere parrot-memory: in fact, it aims at dispensing with this

ghastly and often degrading form of mental exercise wherever it is feasible to do so.

And it does not give much instruction as to how to learn long consecutive passages of Prose *verbatim*: though it does give some helps (Section XXXVIII.). It would rather show the reader how to master the *ideas*.

It does not hold itself responsible for the *subjects* which are to be remembered. There are many who have blamed a 'Memory-System' because people could learn lists of kings and prophets and places by means of it: lists of kings, they go on to say, are quite useless. But surely the 'Memory-System' is not to blame here, but rather the persons who impose the task or who voluntarily undertake it. If a man uses my suggestions for the purpose of learning all the most useless things in the world of 'information', that is nothing to do with me. *That* is the fault of the learner, or of his task-masters—a plague upon them!

Last, but not least, this work does not cram itself with the technical terms of Psychology and Physiology. Let me just show the reader what he has escaped: 'recent physiological investigations show that the axis cylinder of the nerve fibres is identical with the protoplasmic substance of the nerve cells—the latter being simply "nucleated enlargements of the axial cylinder"'. I will not mention the author's name.

Let me, in conclusion, urge the reader, once more, to open his mind and to get rid of the bias which we all acquire, strive against it as we may. While I ask him to examine into, to try, and to criticise my methods as freely as he can, I also ask him to examine into, to try, and to criticise with no less freedom the present methods which he finds around him. Let him regard them, not as if they were the best possible, merely because they are customary and sanctioned by the usage of the majority, but as if they were—perhaps good for certain purposes *but*—capable of improvement, or even of radical change. The habit of sheer learning by rote, by the sounds of words, for instance, rather than by their meanings and ideas—it may be very excellent discipline of a kind, it may show our national bull-dog persistency; but God meant us to be something more than persistent: He gave us our faculties, including the faculties of association, of being impressed by similarities of sound or of appearance or of meaning, not that we might let them perish from atrophy, but that we might make them valuable servants to relieve us of much of our drudgery and to give us time and materials for the higher life. And as to bull-dog persistency, there will be quite enough of *that* needed for practice alone.

The question here is not, believe me, what methods we use by nature, nor what methods we use by habit and custom, for a large part of these methods may

be a relic of backward ages. No, the question rather is this: 'What methods will actually help individuals, you among them, to remember the things which they wish to remember, most quickly, most easily, and, if it be required, most permanently, and with the greatest benefit to their intellectual and moral powers, so that they may put to the best possible uses those materials and those faculties which as animals and as reasoning beings they must undoubtedly possess'.

This is the question here: and the answer is not that they should give the subject no thought, no careful pondering. I have suggested for consideration just a few ideas which may help readers to find out for themselves what are the truest and best lines of memory-culture *for them*. It remains for them to develop and to improve upon these ideas, and to tell me where and why I am wrong.

EUSTACE H. MILES.

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PART I.

INTRODUCTORY.

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IN the following pages I shall frequently use the words '*teach*' and '*learn*': but I wish them to be understood as something wider than mere teaching and learning in their ordinary senses. I wish them, for example, to include *conversations*, in which one person describes or explains, and the other tries to understand; in fact, I wish them to include any case in which anyone wants to *impress* his listeners or readers with what he says or writes.

SECTION I. THE VALUE OF MEMORY.

IF we were deprived of the ordinary air we breathe, we should die: and yet we seldom think of this ordinary air. Why is this? Because, *it is* ordinary, because it is so much a part of our everyday life that *we take it for granted*. And so it is with memory. We use it so constantly that we seldom think of it, and we never give it the credit for a tenth part of what we owe to it; indeed, we can only realise what it is to us if we imagine it to be taken away from us. So it is with health, so it is with many other of the greatest blessings: when we have them, we do not look upon them as blessings: when we have lost them, we look upon their loss as a curse.

Try to picture yourself without memory, and *then* you will learn to realise its value: suppose you could not remember about anything which you or anyone else had ever touched or tasted or heard or seen or thought or said or done: now imagine yourself going out for a walk—you knock against a wall: why? because you do not remember that a wall is hard. You are hungry—you cannot remember what you did before when you were hungry: even if instinct prompts you to eat, you will not remember *what* to eat—you will perhaps try to eat mud or a stone.

As Mr. Stout, the great Psychologist, said, no house could be built if each brick vanished as soon as it was laid.

So much for one or two of the positive disadvantages, to which we might add that any attempt to carry on business, or even to live as a human being in society, would be a miserable failure: and imagine yourself trying to play any game after you had entirely lost your memory!

Again, you would have none of the pleasures of recollection—all past sights and sounds would be gone for ever. Nay more, you would have none of the pleasures of anticipation or *hope*. ‘But surely hope is concerned with the future, not with the past?’ Yes, but its foundation is in memory: you cannot hope that you will succeed in some undertaking, unless you can remember what that undertaking is. Hope may be about something that has never yet happened, but, if you have any real hope of that thing happening, then you must have remembered that something like it has happened before.

Let me go a step further: you cannot even *imagine* without the aid of memories: you can rearrange certain things which you have heard or seen, you can alter them, add to them, or take from them, but these things themselves, out of which you make your new picture, must be remembered, consciously or half-consciously or practically unconsciously, or else you will never get anything that you can really

call a picture. Just try: imagine a picture—a cottage perched on a cliff, a child chasing butterflies, a sea-serpent: now trace back the picture to its materials—you will find that these materials were already in your mind before you could imagine the picture, which is merely these old materials re-arranged, perhaps with changed proportions.

Let us look at a more important aspect of life—an aspect more important than mere existence, mere success in business, mere social intercourse, mere pleasure—I mean right action. Take away the memory of all good thoughts in the past, of all good words, all good actions, both of yourself and of others, and take away also the memory of all bad thoughts and words and actions, and also the memory of *what* thoughts and words and actions were bad and what were good—now try to act rightly.

Memories, then, lie practically at the root of our conscious existence: and it is chiefly in the number of different things that we can remember (feelings, sights, and sounds, and so on), and in the number of different uses to which we can put the memories of these things, that we excel the brute-beasts. We excel them, that is to say, not only by our versatile memory in itself, but also by the many wonderful experiences, and lessons, and materials for every kind of improvement, which this memory puts into our power. For without memory we might conceivably live, but we could scarcely improve.

We may, then, regard memory as absolutely *essential to progress in any direction* : and it follows, 'as the night the day', that, *if* we can improve our memory, we can also 'improve' our progress—we can make our progress faster and surer and better.

But *can* the memory be improved ?

Let me state here my firm belief

(i) that (to some extent) we have many kinds of memories, which usually act in combinations ;

(ii) that *each several one* of these can be improved, more or less by itself, to almost any extent ;

(iii) that two or more of them (working together) can be improved to almost any extent ; and

(iv) that the way to improve these memories is first of all to find out what are the right methods, and then

(v) to practise these methods.

And as to *practice*, it is very essential

(a) *to practise only one kind of memory at a time to begin with*, and to practise it

(b) *in the right way*,

(c) *very slowly, and*

(d) *with the whole attention fixed on it* ; and

(e) to practise that one kind of memory again and again till it can and does *work more or less by itself, easily, automatically, instinctively*.

It is a long and laborious task, but it is well worth while.

This seems to me **the secret of practice**, and

it is the way by which, for example, I learnt to take back-handers at Tennis: I began by giving my whole attention to doing a single thing at a time in the right way, very carefully and again and again.

By this means we pass through several stages—

1. We have to use an effort of will to do the thing: there may even be great resistance, because we have *not* been used to doing the thing in *this* way, or because we *have* been used to doing the thing in another way.

2. But, by degrees, we no longer have any real effort of will, though we are still *conscious* of doing the thing in a certain way.

3. Later on we come to do the thing naturally and almost unconsciously, somewhat as, when we walk along, we are often unconscious of walking: but *at intervals we are conscious* of walking.

4. Then, we do the thing practically *automatically*; it appears *as if it were done for us by some good servant of ours inside us*. We do not seem even to have to tell this good servant what he is to do; nay more,

5. sometimes *we cannot help his doing it*: he does it so regularly that, *unless* we exert our will (cp. 1), we cannot stop him from doing it. I saw a good instance once. Before the days of 'declaring the innings closed', a fine cricketer had had a long innings and wanted to get out so as to let others 'have a knock'. But it took him quite a long time: he

tried to let the straight balls bowl him, but the good servant inside him, the combined use of eye and brain and nerve and muscle, *would* stop the balls! He was saying to that servant 'Don't do that', but the servant still went on doing it!

(f) When this one memory by itself has been well practised, then another can be practised by itself in a similar way.

(g) Then the two can be used together, or alternately; and so on.

But of the methods of practising and helping the memory I shall speak more fully in Sections XXXIX. and XL.

A NOTE ON THE VARIOUS MEANINGS OF THE WORD 'MEMORY', AND ON THE USE OF THE WORD 'FACULTY'.

Throughout this book I shall speak of Memory and not of different kinds of Memories; though many would rightly consider this to be inaccurate.

When we see a thing, we see it by means of the eye, and the nerves leading from the eye to the brain, and the brain itself: when we hear a thing, we hear it by means of the ear, and the nerves leading from the ear to the brain, and the brain itself. Thus we see by one means and we hear by another, and so it is, *to some extent*, when we *remember*.

The things which we have seen we can (I believe) scarcely remember except by means of *both* the brain *and* the nerves between the brain and the eye; and the things which we have heard we can scarcely remember except by means of *both* the brain *and* the nerves between the brain and the ear; so I regard the memory of things seen as *to some extent* a different kind of memory from the memory of things heard. It is true

(i) that seeing and hearing are both at least partly due to 'motions' and vibrations in the air ;

(ii) that the two memories very often work together and help each other (see below) ; and

(iii) that the brain is generally held to be at work in both kinds of memories ; but, for the purposes not merely of remembering but also of learning a thing, it is essential to treat the two memories as *to some extent* separate : for we can remember a sight without any memory of a sound, and *vice versâ*. To take a familiar instance, some people can remember poetry almost entirely *by seeing the words* in front of them, written as it were before their mind's eye, whereas others remember poetry almost entirely *by its sound* (so that they do not necessarily understand a word of it). Here, then, there are *two memories*, though most people learn poetry by using them both, and also by the help of a somewhat different memory, which for the present we may call the memory of *meanings*.

For convenience, then, I shall use the term 'Memory' rather than 'Memories', in spite of the fact that the memory of the eye, for example, is to some extent distinct from the memory of the ear. Another reason, besides convenience, is that it is frequently impossible to analyse the memory into distinct parts. Thus when in the distance we hear a cricket-ball hit, but cannot see the hitter, we may think we only hear a sound : but we really do, far more than this. We remember, perhaps so rapidly or so dimly as not to feel it, the sight or the motion of a player hitting the ball with a bat : the applause which follows does not come as a mere sound—it also has its associations. And as the original impression made by the cricket-stroke is 'complex', so the memory of the cricket-stroke will be 'complex'. It may even call up the further remembrance of some cricket-stroke of our own.

So if we think of having touched ice with a needle, the memory need not be the mere memory of touch, for there may be the memory of the appearance of the ice, and of the sound that the needle made. The three or more memories, however, are to all intents and purposes blended into one.*

* See Stout's Psychology, vol. i. p. 92.

The use of the singular word, 'Memory', has other drawbacks. For not only is it often possible to distinguish, to some extent, the memory of the eye and ear, etc., but there are also various degrees of memory, as it were, in an ascending scale.

There are some who say that to have ever seen or heard anything implies that it has left an impression upon us, upon the cells of our body, and that therefore we must remember it so long as we live. This in a sense is true, but it is a stretching of the word 'Memory' beyond its normal limits.

Most people, however, would say that we must 'remember' anything that we have once 'learnt', even if at the moment we cannot recall it. It may be a mere jingle of sounds, but there it is within us, somewhere.

A higher memory would be that of things which we have not only 'learnt' but have also understood. We may be said to remember these things even if we cannot recall them all at any required moment. We may be said to 'know' these things, and 'knowledge' presupposes Memory.

More useful still are those things which we *can* recall at any required moment: these things we may be said to remember in a fuller sense.

In a still fuller sense, again, we remember those things which we have not only learnt and understood and can recall at any required moment, but which we can also use and apply. This is far higher in the list.

In spite of these disadvantages, however, I have preferred to use the word 'Memory'. I may have been wrong in doing so, but I felt that the Plural 'Memories' would be perpetually tripping up the reader as he moved through this book, which, from its very nature, is bound to be quite hard enough already.

I have also used the word 'Faculty' very frequently, without intending it to have any technical sense of a special faculty of the mind. I have often preferred it to the word 'capability', which I might have used.

SECTION II. THE IDEAL WAY OF LEARNING AND REMEMBERING.

IT may be well to begin by saying what the ideal way of remembering would be.

1. We should like to remember the greatest possible *number* of good and useful things.*

2. We want to remember these things with the greatest possible *rapidity*, with the least possible expenditure of time. Here it must be remembered that a little extra time spent in the first stages may save a great deal of time afterwards.

3. The greatest possible *ease* and facility, and the least possible difficulty and effort, are also to be desired ; and also

4. the greatest accuracy and *certainty* (with regard to the full number of things to be remembered and, if necessary, their right *order*), and therefore the least chance of mistake or failure.

5. We should be able to *recall* the things, *and make use of them*, at will, at *any* time or place, and under any conditions.

* Throughout the book it must be borne in mind that my main object is to tell the reader *how* to remember things, taking it for granted that he has already decided on the things themselves. It is not my main object to tell the reader *what* to remember.

6. The way of learning and remembering must be full of *interest* and even of pleasure: it must not be dull—still less must it be an annoying drudgery.

7. Our method of learning and of remembering should not be unthinking and slavish, as if we were mere parrots or phonographs; but it should bring the greatest and best *development of all the finest faculties of our minds*. We want to delegate as much as possible of the mechanical work to the lower faculties, so as to leave the higher free for the higher tasks of reasoning, etc.

We want to use faculties which hitherto have been little used, or unused, or even misused, such as the faculty of associating together those words that sound like each other—a faculty which is often misused for the purpose of punning.

8. There are in our minds rich stores of *materials* also, which hitherto have been little used, or unused, or even misused (such as the ideas associated with an 'omnibus', which have been unused—see the Preface).

9. Above all we must know *how* we can learn and remember best, and *why* this is so: we want to know just exactly what the processes are, so that at first we may learn and remember by a *conscious effort of will*, which will soon, however, become unnecessary, if we practise properly.

This is of the utmost importance: for, unless we know each step in the process, we cannot practise

each step separately and therefore cannot practise properly at all. For 'part by part' is the secret of practice in its first stages.

Again, if we do not know exactly *how* to learn and remember, i.e. the actual process of learning and remembering, *step by step*, how can we expect to teach and to help others to learn and to remember?

SECTION III. SOME HINDRANCES TO MEMORY, OR WHY WE FORGET.

How is it that we are so apt to forget? How is it that we often find it so hard to remember?

I will try to suggest some of the reasons, at the same time referring to the Sections in which I have offered hints as to how the deficiencies can be remedied.

(i) *Bad health* (VI.) is a common cause—if not the commonest cause—of bad memory and forgetfulness. Muscular tension may be included here.

(ii) *Bad conditions* (VI.), such as a hot room with little or no ventilation, also contribute.

(iii) *Want of attention* while we are learning things, however, is perhaps the greatest mistake of all (see VII.). And this in its turn is generally due to a number of causes acting together.

(iv) We may feel no *interest* in the subject (see VIII.); and hence we shall be, as it were, writing our ideas in water instead of in ink, engraving them lightly on the surface instead of cutting them deep.

(v) Perhaps, again, we have not systematically *collected* our ideas or Headings (IX.) into a definite *list*. Or, if we have done so, it may well be that

(vi) our list is too large: we have collected, it is true, but (see XI.) we have not *rejected* the 'Not Wanted'.

Or, even if all the above conditions have been complied with, viz. good health, good environment, concentrated attention, interest, collection of Headings, and selection of Headings, still there may be something lacking, for

(vii) we may have failed to *arrange* (XII.) these Headings in a good order;

(viii) we may have failed to find out the *causes* and other connexions between the various ideas (XIII.): though this does not apply to all subjects which have to be learnt or remembered.

(ix) Again, possibly we may never have had in our mind any clear general *outline* of our subject, before we started the details (XIV.);

(x) we may not have *realised* our subject, especially by forming vivid mental pictures (XV.);

(xi) or no careful study and *analysis* of each part has been made—our notions about many of these parts may be still vague and misty (XVI.).

(xii) *Common sense* is a wonderful help to the memory (see (XVII.): we may, perhaps, have neglected to use it at all, for the ideas of others or mere words may have been 'swallowed undigested'.

(xiii) Has no use been made of *Comparisons* (see XVIII.), or of

(xiv) *Contrasts* (XIX.), as helps towards learning and remembering? If so, then that itself would account for a great deal of failure.

(xv) To have tried to *teach* and explain the thing to others (XX.), or even merely

(xvi) to have *repeated* the Headings (XXI.), might have been what was wanted to insure the recollection of these ideas. Or is it not likely that the ideas were repeated in the wrong way? For there is a wrong way of repeating, as well as a right way.

(xvii) The ideas may have offered many *useful points* to help one to hold the subject fast (XXII.), and there may have been many

(xviii) *things which one knew already* (XXV.) to which one might have *attached* the new ideas.

(xix) In a word, there have probably been *no system or systems* at all (see Parts III. and IV.): all has been done haphazard, anyhow, just as chance directed.

(xx) No attempt has been made *to find out which are your strongest kinds of memory*, for instance the memory for things seen, and to use these, and, at the same time,

(xxi) to find out which are your *weakest* kinds of memory, for instance the memory for things heard, and to cultivate and practise these.

(xxii) Probably the thought of *practice* of any kind, and especially of the right kind (XXXIX.),

has never entered into your head, or, if it *has*, has been immediately rejected as 'not worth while'.

(xxiii) Many exceedingly useful *faculties* that would have lent strong support, and that would have relieved of much trouble and dulness, and that would have saved from many a serious if not fatal lapse of memory, might have been developed and constantly employed, instead of being left idle: I need mention here only the faculty of remembering things better when there is about them a *rhythm or a similarity of sound* (as in Rhymes). See XXX. and XXXI.

(xxiv) Unused or little used, moreover, may have been the *materials* with which your mind is as richly filled as any treasure-house (XXIII.).

Be sure that both these faculties and these materials are ours that we may put them to a good use; and there are few better and nobler uses to which we can put them than the help of the memory, the prevention of forgetfulness.

(xxv) Probably there has been, in our case, no general knowledge of *how* we remember, or how we can *best* remember; still less has there been any special knowledge. Still less has any such general or special knowledge been put to any general or special use.

No: we have certainly left undone, unconsidered, unlearnt, and unemployed, a very great deal that

might have not only minimised our labours and our lapses of memory and the many grievous results therefrom, but might also have positively developed our mental faculties to an extent which at present we can scarcely expect to realise.

PART II.

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SECTION IV. **AN INSTANCE LEARNT AND REMEMBERED WITHOUT MEMORY-SYSTEMS.**

GENERAL principles are often best learnt, if not best remembered, by means of concrete instances. From the instance the general principle may be shown, and this general principle may then be applied to and illustrated by additional instances.

After much deliberation I decided on 'The Causes of Rome's Success' as the best subject to be learnt and remembered (first *without* Memory-Systems and then *with* them). The reason for choosing this apparently 'Scholastic' instance will appear below: another reason was that I already had Memoria-technica for it ready to hand. As a Coach at Cambridge, I determined that this one topic, at any rate, my pupils should not only understand but should also remember.

I. For learning and remembering this example (or any other), *good health and* as many other *good conditions* as possible are almost a *sine quâ non*. Of these I shall speak later on.

II. *Concentrated attention* is the second requisite.

You must put aside all other considerations and fix your mind's eye upon *this*.

But you say that you cannot. You do not care about the subject, and it does not interest you. If it *did* interest you, you would not mind so much. As it is, you do not want to know why Rome succeeded.

In order, then, to be able to fix your attention on the subject, you require that it should have

III. an *interest*—and an interest for *you*.

In a work which I am preparing on this question, I am trying to emphasise some of the points of interest that it has for all of us. I select a few here :

(a) If we learn and remember why Rome succeeded, then we learn a great deal as to why *England* herself has succeeded. It is a topic of which we, as a Nation, are sadly ignorant, and this ignorance has led to many evils.

(b) Indirectly, the lesson will teach us many reasons why Rome failed, and

(c) why England might fail—a serious consideration ;

(d) why is it that groups of people, for instance Companies, or families, succeed or fail? This would be worth knowing. But still more worth knowing would be an answer (even if only a partial answer) to the question.

(e) 'Why have individuals succeeded or failed? Why *will* they succeed or fail? How can *I* succeed—or how am I likely to fail?'

Thus the theme has in it a very practical lesson for life, so that it will now have interest.

And special points will have their lessons and their interest too: for example, a consideration of

(f) the influences of Geography;

(g) the colonies, and the management of the empire;

(h) the system of alliances;

(i) the unity of the people;

(j) the military discipline;

(k) the Senate at its best, as being perhaps the finest Aristocracy that the world has ever seen;

(l) the Roman Religion; and so on.

All these things it will not be dull to consider, if we compare and contrast Rome with our own Nation and other Nations as well—for example, America or Germany.

But this is not all

(m) There may be other *motives* to give the subject an interest. Why does that student work up that theme? Is it merely to improve and to store his mind, to develop his powers of comparison, contrast, inference, and so on? May not *success* in some Examination, and the consequent reputation, or position, or money, have *something* to do with it?

Let me add another point.

(n) To learn this thoroughly once for all may save much trouble in the end, especially for the learner of History. Later on he will come to Augustus, one of the greatest political organisers that we know of in History. His object was to restore the appearance of the old state of affairs: and so he tried to revive these same features in Rome's early success.

If once the reader has learnt the lessons, not slavishly but intelligently, then he will not only be more fitted to take his part in the Government of his country, but he will also save himself much toilsome learning in the future.

(o) Let me add that he will have a topic for reflection at odd moments: he may often be glad of it while he is waiting or walking or travelling.

Having, then, fixed his attention on the question, because it will now have its interest for him, the learner will proceed

IV. to *collect* ideas, as *Headings*; he will not go straight to his books, but will first think out the subject for himself, using his common sense, comparing various and general causes of success, and contrasting various causes of failure.

To this collection he will add by reading, etc.

V. If only he had a *complete list* of Nations' successes, how easy it would be to collect the *Headings* that he wanted.

VI. But even his own collected Headings would form a very long list. Perhaps it would not, for ordinary purposes, be worth while to study and learn *all* of the Headings. He might, therefore, *select* some, and *reject* others.

He would select the most important, or the hardest to remember, and he would reject the least important, and (possibly) he would reject some of the easiest to remember. Though this last can be carried to excess.

He might find out which Headings were hardest and which were easiest by an experiment—he might try to reproduce the list, and then see which Headings he had omitted.

So far the Headings would still be in *any order*.

VII. But it would be necessary to *arrange* these Headings; for the ideas would appear as Headings, and if possible as single words, such as Roads, Colonies, Senate.

As to the best methods of arranging, see Section XII., and also 'How to Prepare Books, Essays, etc.' (Rivingtons).

Here one must be brief: one might *group* the Headings *under great Main Headings*. Thus we might have

- (A) State of the World's Civilisation then;
- (B) Geography and its Effects;
- (C) the Romans in dealing with others;
- (D) the Romans themselves.

We notice that (B) gives Geography and its *effects*. It will be necessary therefore

VIII. to work out what *are effects, causes, hindrances*, and other 'real connexions'. This will be a great help towards learning and remembering, besides being a splendid mental exercise.

IX. A rough *outline* of the theme might now be made, a general outline free from details. This should be thoroughly grasped and understood.

Now it is all very well for the teacher to say 'Grasp this thoroughly': but the question is 'How?'

X. Of a truth, to *realise* a thing is often half the battle. We feel as if we *must* remember an idea, willy-nilly, if only we could once realise it fully. What is this realising, then?

To a great extent it consists in what most of us do so much and so well when we are young, so little and so badly (alas!) as we grow older: viz. *picture-forming* or *picture-painting* in the mind.

You tell a child a story, you describe an ogre, and the child *sees* the ogre (perhaps not your ogre but his or hers!)

Obviously, this can be practised at odd moments; we can watch Brown's face and then try to reproduce

a picture of it in our own mind or (as it is sometimes called) in our own 'imagination'.

Pictures, Drawings, Photos, Statues, and Models will go a great way towards making the idea a living and a moving reality; and, if we could only enter into the life of the Romans, and '*be* Romans' for the time being, or '*act*' the part of Romans, this would help us. This '*acting*' can be a most important aid to learning and remembering, as we shall see below.

As we take each Heading or idea, let it not merely be a word or words: let it be a picture, and let us ourselves be the actors in it. 'Imagine', for instance, the military discipline, the family-life, the Religion of the Romans.

XI. It will also help us to realise, if we divide the whole into its parts, and *study and analyse each part separately*.

One good way of analysing is to ask questions, making ourselves the cruellest Examiners and the most conscientious Examinees rolled into one. 'What effect had the seven hills upon Rome's success?' 'These elaborate religious ceremonies — why did they help the Romans to succeed?'

We are too apt to be content with a word like 'organisation', without having any idea of how it showed itself, what its *parts* were; e.g. military

discipline, Religion, Laws, submission to the father of the family.

XII. Of *common sense* and '*a priori*' reasoning we have already spoken. 'Why would any people succeed? When should we *expect* them to succeed?' For surely we need not go to a History Book, as so many do in their unthinking haste, to know that they must have worked well together, that they must have had wise leaders, and so on.

If we only had 'eyes to see', a plan of Rome, a Map of Italy, and a Map of the Mediterranean, would tell us a tale that we should not soon forget.

We have so many 'familiar starting-points' already in our minds, and, if we could but learn to use them, we should save an enormous amount of drudgery. For example, every one knows about Cato; now he was a type of the best Roman of his day—brave, persevering, honest (after a fashion), frugal, sensible, and so on. This is a concrete instance from which it would be easy for a child to draw inferences as to why the Romans succeeded.

Here we might almost class

XIII. *Comparisons*, for instance—as we have seen above—the causes of the success of other Nations (e.g. the British Nation), of Companies, of individuals: in fact, the causes of *any* success or strength anywhere may give us something that will be to the

point, and will also be easier to learn and to remember than the Causes of Rome's Success themselves would be. Why does Roberts succeed as a Billiard-player? Partly because his eye and nerves and brain and muscles all work in harmony. Why have many other players succeeded? Because they have practised patiently and slowly, at first, and e.g. have taken the strokes one by one till they have made certain of what may be called the foundation-strokes of the game.

Or we might consider a whole host of illustrations and *analogies*—the faggots, so strong when tied into one, so weak when taken separately.

XIV. Not only Comparisons, but also *Contrasts*, may help us to learn and to remember. Why did Rome fail? Why has any Nation failed, any Company, any individual?

When you are working by yourself, it may not occur to you to remember by these means: but, if ever you come to teach those who are ignorant and uneducated, as Jesus, for instance, had to teach, you will be driven to begin with Comparisons and Contrasts (Section XLII.): otherwise the learners will not learn, and of course will not remember, in the higher sense of the word.

XV. *Teaching* others, however, whether it be by speaking or by writing, does not teach merely the

learner: it teaches the teacher too. On this all are agreed.

XVI. Teaching, among other things, is a form of *Repetition*: you repeat what you know, or you try to repeat it and then see where you fail.

Repetition (Section XXI.) must be done *step-by-step*: it does not do to repeat the whole thing at once. After you have mastered the rough outline, you must then divide the subject into parts. Now take Part I., and master *that*; for instance, realise it: then attack II., but, before you attack it, go over I. again, to make sure of it. After mastering II., attack III., but first go over I. and II. again. And so on to the end.

This we call the *Résumé-Method*, and it is of inestimable value. Below, we shall find it applied to Maps.

Later on we shall see that there are several kinds or classes of Repetition—we may 'repeat' the understanding and realising of the ideas, or the sight of the written or printed words, or the sound of the words; as I shall point out, Comparisons and Contrasts are also, in a way, forms of 'Repetition'.

SECTION V. THE SAME INSTANCE REMEMBERED WITH MEMORY-SYSTEMS.

LET me assume—very rashly—that the reader has employed all these means, or as many as he can, in some given instance. Even then, however, he probably finds that *he does not remember the whole list*: it is a list that will be always coming in useful for his History, let us suppose, and he would like to have it always ready to hand. But, like pigs in clover, after he has caught all but three he is at the end of his resources. What is he to do?

XVII. Look at the list which you have made: see if you *observe* anything that will help. This should always precede the serious learning of anything, as it may save much time and trouble.

For example, you have to realise how *slowly* Rome succeeded at first, how *fast* she succeeded afterwards: you know that after about 510 (or 509) B.C. she had to struggle for her very existence; then, by 390 she had got a tiny little Empire, for some miles around her; at last, by 267, she has conquered and settled practically the whole of Italy south of the Apennines. From 267 to 133 she has become mother of a great Empire, including not only Italy,

but also e.g. Sicily, part of Spain, part of Gaul, part of Africa, and the whole of Macedon and Greece. Now *observe*. From 510 to 390 is 120 years, from 390 to 267 is 122 years, from 267 to 133 is 134 years. It must strike you at once that, if you only had 510—390—260—130, you would just have to learn 510, and could then take one interval of 120, and two intervals of 130 years, ending up with 130 B.C. This would help, and the few years' difference could easily be corrected later on.

For other points which may be observed here, I must refer to 'A History of Rome up to A.D. 500' (Grant Richards).

XVIII. Now look at the list again (below), and let us suppose that you want to remember those five Headings about 'the Romans themselves', viz. the Senate, Unity, Character, Organisation, Father's power in the Family. How is this to be done?

The *Loisette- or Link-System* will be applied first of all. We want to link these together into a single firm chain. I will give one way here, leaving the explanations for Section XXIII.

Senate—sanity—*Unity* :

Unity—one man—many parts—actor*—

Character :

Character—to carry—a barrel-organ—*Organisation* :

* Cp. Shakespeare 'And one man in his time plays many parts.'

Organisation—far-reaching organisation—*Father's power* :

Father's power.

Read this through slowly and on the principles laid down in Section XV., realising each main Heading as you come to it. Then take it backwards. Then try it by yourself, and strengthen the weak Links (e.g. a barrel-organ and to carry) by practice.

These Links were almost the first that came into my head: of course every reader could make a far better set out of the thousands of associations that he has in his mind.

Going up the list (see below), we might have

Father's power—farther—one step farther—*Gradual Steps* :

Gradual Steps—gradual struggle—*Enemies* :

Enemies—any miss—miss train—late—*Isolating* :

Isolating—ice—slippery—*Treachery* :

Treachery—treacle—sticky—join—*Alliances* :

Alliances—all*—all right—rights—*Extended Rights* :

Extended Rights—extended roads—long roads—*Roads* :

Roads—*Romanising* :

Romanising—'Row man'—call out—*Colonies* :

Colonies—colon—stop—fixture—*Mixture of People* :

Mixture (of People)—mixed biscuits—rusks—*Etruscan Kings* :

Etruscan Kings—Etruria—travelling tour—*Geography* :

Geography—rough—uncouth and backward—*Backward State of the Age* :

Backward State of the Age—drawbacks—*Absence of certain Drawbacks*—

* Notice how here the Link will probably be weak: it is a Link in form, *All—All*, rather than in sound.

Absence (of certain Drawbacks)—heart fonder—hearty wishes for success—*Success*.

This list should be treated in the same way. It will be a good final test to begin at Success and go right through the list, backwards.

Other Links will be seen below. But these will form a sufficient illustration for the present.

At first the progress will be slow: it will grow faster and faster with practice, until at last the Links are formed instinctively. *Then* the practice is realised to have been worth while.

But, let me repeat, the ideas themselves must be realised before the Link-system is applied.

XIX. *Localising* is perhaps the oldest of all 'Artificial Systems'. I give one way in which it could be applied here.

Picture to yourself the room that you know best. There is its window—its fire-place—its door—its bookcase—its table—its arm-chair—its sofa—its desk; all these you have in your mind already, firmly fixed. Cp. Diagram VII. Now take the Headings—let us say those under Geography—and 'localise' each Heading, or connect it with some one of the various things in the room.

The *window* itself may suggest Geography—you can (perhaps) see a view from it; imagine that the *fire-place* has an Etruscan vase on its mantelpiece, and this will recall the Etruscan Kings; the *door* lets in a number of different people: Mixed People

can therefore be the idea associated with the door; and so on.

If you concentrate your attention on 'the game', and if you once get the pairs of things firmly tied together, then the thing that you can *always* recall (e.g. the part of the room) will in its turn recall the idea.

For further details, see Section XXIV.

XX. Closely akin to this is the *Peg- or Anchor-System*, according to which you remember ideas, not by tying them to places that you already know, but by tying them to *other ideas* that you already know (or can easily learn).

Of course you cannot learn or remember why Rome succeeded unless you know about her Geography.

Look, then, at a plan of Rome, a Map of Italy, a Map of the Mediterranean: how are you going to remember even the outlines of it? 'Italy', you say at once, 'is like a leg with a boot on'. You see how we remember this: Italy is like something which we know already. As to the Mediterranean, see Diagrams XII.—XIV. Here I shall merely give the outline of Rome and the Tiber: I shall give it part by part.

First draw a Y, but give it two legs for it to stand upon. Take its right-hand half, and make it up into a thing looking like an egg leaning to the right. The left lines will represent the Tiber. In

the North were the Sabines, with the Tiber to their West, beyond the Tiber were the Etruscans, with the Tiber to their East, flowing downwards to Ostia and the Sea. In the South were the Latins.

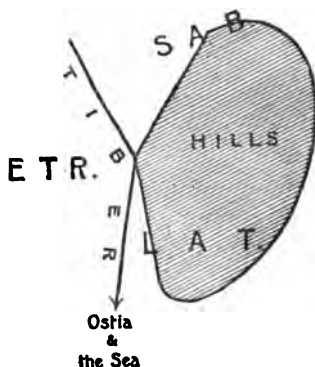


Diagram I.

By the initialising System (below) we might remember these names by the word STEROL, linking it to the 'Latin Plain' thus : '*Latin plain*—rich—sterile—STEROL'.

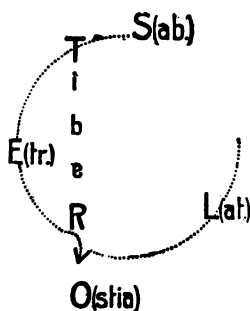


Diagram II.

By this means anyone might easily learn a Map or Plan of anything: it would be inaccurate, but it is usually just the very *accuracy and fulness* of a Map that prevents its being grasped as a whole. It will be time enough to think of details when we have got our outline safe and sure.

Other instances will be given in Sections XXV. and XXXV.

XXI. Dates, and numbers generally, have been found very hard to remember, and Systems have been devised by which instead of numbers we have letters, and especially consonants. Thus, by one System, 5 = *f*, 1 = *p*, 0 = *s*, and so 510 (the date assigned to the beginning of the Republic at Rome) might be represented by *fops*: the vowel (o) does not count. We now have to link 'Beginning of Republic' to 'fops' ("*Beginning*—beg—beggars—*Fops*" might do). See further Section XXVI.

But it is obvious that this is almost useless unless we have practised a great deal and come to know exactly which letter = which number. This takes a long while, but the wide application of the System, and also the *certainty* of it, e.g. for the remembering of the numbers of houses or cabs, makes it worth while, in the end, for those who are bad at remembering numbers.

267, when Italy was conquered, might be [*d*=2, *n*=6, *y*=7] *deny*. Hence "*Italy*—it's a lie—I *deny*".

130, when the dangerous Wars were over, and Spain, Macedon, Africa, Carthage, and Asia Minor, had been recently added to the Empire, might be [*p*=1, *ch*=3, *s*=0] '*Peaches*'. Hence "SMACAM (the initials of these countries, see XXVII.)—smack em—smack the lips—luscious—*Peaches*".

This might be called the *Substituting-System*.

We shall see a different kind of instance below (Section XXVI.).

XXII. Of all the ways of remembering long lists, I know of none that equals the 'Initialising'-System. For remembering things rapidly, certainly, and (often) in the right order, it may be simply invaluable.

The power of using it comes only with practice—but it is the easiest sort of practice for *any odd moments*: the process is rather fascinating and the results are most satisfactory.

For instance, I will assume that we have realised and learnt all the Headings for the Causes of Rome's Success: and that we now want to remember them all, under their proper Main-Headings. How on earth are we to do it? For there are about 20, and there would be others besides, if we had the time to take them into account.

We cannot estimate the value of the 'Initialising'-System unless we try to remember these Headings without it. We might spend a long time over them, and yet never be *quite* sure that two or three would not have escaped our memory a week hence. If any one does not believe me, let him make the experiment. Here is the list.

State of the Age (backward), Absence of certain drawbacks ;
Geography and its influences ; Mixture of Peoples in Rome ;
Etruscan Kings and their work.

Gradual success by constant struggles ; Enemies and their weakness, and Rome's Luck ; her policy of Isolating her subjects and enemies ; her Treachery ; her system of Alliances ; her Extension of her Rights ; her Roads ; her capacity for 'Romanising' ; her Colonies.

Her Senate ; her Unity ; the Character of the Romans ; their Organisation (in Law, in Arms, in Religion) ; the Family Life and especially the Father's power.

Think of Rome as the centre of Italy, the central Gem of Italy, the Focus of Civilisation, and then repeat a few times the words

AS GEM CREATING FOCUS.

These you could learn in a few moments : and they would give you the initials of these Headings. This is the list.

[*General*]—

Absence of certain drawbacks ;

State of ~~the~~ ^{present} Age (backward—while Rome was a City—State) ;

[*Geography and its Effects*]—

Geography (esp. geographical position of Rome) ;

Etruscan Kings and their work (e.g. the walls of Rome, and the Cloaca for draining and drying Rome) ;

Mixture of Peoples in Rome.

[*The Romans dealing with other Peoples*]—

Colonies ;

Roads ;

Romanising ^{tendency} ~~faculty~~ ;

Extension of Rights, slowly, and by a graduated System ;

Alliances ;
 Treachery and 'Diplomacy' ;
 Isolating subjects and enemies ;
 eNemies (their weakness and disunion, and Rome's
 Luck) ;
 Gradual Steps (and constant struggles).

[*The Romans themselves*]—

Family life (esp. **F**ather's power in the Family) ;
 Organisation (the word **O**RAL, again, suggests
 Religion, **A**rms, and **L**aw) ;
 Character (cp. **C**ato's Character) ;
 Unity ;

Senate's Government. We might add **S**lavery.

Observe how **N** for eNemies is an instance of
 'Substitution' (above).

The reader will say 'This is all very well, but it takes a long time to make words like this : it's just a piece of luck that these words ('As Gem Creating Focus') happen to fit in.'

But it is nothing of the kind. If you practise, if you learn the *art* of Initialising, which is described in XXVII., you will soon be able to make equally good lists for yourself. It is surprising how easy the process becomes after a very few experiments.

Here, for instance, is an alternative list, taking the Headings all together. Observe how many alternative words there are. Your power of speaking and writing English would be much improved by practice in finding such *synonyms*.

Take the words "CRISPER COAT PLUMES" as giving the initials of *some* of these Headings.

Character ;
 Romanising faculty ;
 Isolating ;
 Senate and **S**laves ;
 Position ;

Extension of Rights ;
 Roads ;
 Colonies ;
 Organisation ;
 Alliances ;
 Treachery ;
 Patria Potestas (and Family-life) ;
 Luck (e.g. weakness of Enemies) ;
 Unity ;
 Mixture of Peoples ;
 Etruscan Kings ;
 Struggles with Nature and with Enemies.

To link "The Causes of Rome's Success" to CRISPER COAT PLUMES, which words you would be likely to remember because they mean so little, because they are so absurd (XXIX.), take the initials CRS (Causes of Rome's Success), and you have the chain "*Causes of Rome's Success*—CRS—Crisper Coat Plumes."

This list is inferior to the other because it is

- (a) less complete ; and
- (b) badly arranged.

For a list of *Alternative words*, e.g. Luck or Fortune, Unity or Cohesion or Harmony, see XXVII.

Or, again, take a Sub-Heading, such as the Geography of Rome: for an explanation I must refer to 'A History of Rome' (Grant Richards); here I can only take a few Headings and arrange them so that the initials form a word. Observe here how a useful principle comes in: *the vowels do not count*.

"*Geography*—scenes—HeR S CeNeS" would give the chain.

Hills (for health and safety, etc.);

e

River (for water, and as a frontier, and as a means of communication);

Sea and Soil;

Central position (in Italy and in the Mediterranean);

e

Neighbours;

e

Sicily and Spain (for corn, slaves, money, etc.).

The use of Initialising in Maps and Plans we have noted already (p. 36).

When these Headings are also linked together by the Loisetite-System, and formed into a *Rhythm* or *Rhyme* as well (see XXX., XXXI.), the chain becomes extraordinarily powerful.

Where there is a difficulty about forming the initials into words, they can easily be formed into sentences having the same initials: though this is a cumbrous process, compared with the other. But still, let us take a sample, with the 'CRISPER COAT PLUMES' initials.

"Consistently Roman Individuals Sacrificed Personal Ends, Rightly Considering One Alone To Profit Little Unless Many Excelled Simultaneously".

XXIII. The '*Brunch-System*' of Blend-words I have named after the Oxford word which expresses that meal (especially on a Sunday morning) which

is *both a Breakfast and a Lunch*. Lewis Carroll was very fond of these words, but he did not invent them. Men have used them by accident times innumerable, as we shall see later on.

Let us take a few Headings and form them into a Brunch-word: the process is not unlike that of Initialising, except that, as a rule, a larger portion of each word is taken. **Tr**(eachery), **Is**(olation), **En**(emies), **Gra**(dual steps), **F**(amily life), **O**(rganisation) would form Brunch-words tris eggraphō (Greek τρις ἐγγράφω).

One is reminded of those Combination-Photos of two or more faces: in the whole Photo we recognise some one or more of the features of each individual.

A Brunch-word '*Romanisolestreacharac*' might gather up into a unity 'Romanising—Isolating—Extension of Rights—Treachery—Character'.

But I do not recommend this as a good general System.

XXIV. *Absurdities*, and humorous ways of regarding things, are to *some* a good means of learning and remembering. There are many who have learnt Roman History best from A-Becket's 'Comic History of Rome'.

A caricature of the early Roman simplicity might represent (*a*) Cincinnatus as having just attended to a turnip, and coming into the kitchen in order to put some garden-snails into the soup as

a great treat, and then (*b*) the Romans telling him he must be their general now, and Cincinnatus, grumbling at having to leave the soup, but going off at once and gaining a splendid victory, and then (*c*) returning with a chuckle to warm up the soup again, and to go on with the turnip-tending.

I do not say that this is a good plan for many: but to many schoolboys I know it would appeal—for they require a peculiarly obvious kind of absurdity!

The fact of it is that such a plan, silly as it may seem, yet has the power to impress an idea on certain minds *because* it is so silly: it comes so unexpectedly, and it is so *striking*, or, in other words, it makes so vivid an *impression*, that the idea cannot fail to be remembered: for a vivid impression is just what we want.

The *change* is also a good feature: for we should not recommend this as a good general System any more than the 'Brunch-System' (above).

XXV. *Rhymes*, and also *Alliterations*, have been a Memory-System from the Nursery-days till now. For familiar instances (such as 'Thirty days hath September') see Section XXX. For certain subjects they are an inestimable boon.

I here give a Rhyme for the Causes of Rome's Success, taking the Headings in the order in 'AS GEM CREATING FOCUS'. It is a halting Rhyme,

but then the words and their order are fixed—little choice is possible.

Rome was the **FOCUS** of the world: the **Causes**
let us gauge—

The **Absence** of some drawbacks, and the back-
ward **State** of the **Age**;

Geography, the **Etruscan** kings, **Mixed** Peoples in
the town,

Colonies, **Romanising**, **Roads**, and **Rights** **Ex-**
tended down,

Alliances and **Treachery**, **Isolation** of her foes,
her **eNemies**, the **Gradual** struggling steps by
which she grows;

the **Father's** powers, her **Organised** [**Religion**
Arms and **Law**],

her **Character**, her **Unity**, her **Senate** great in
war.

Here, once more, lest it should be thought that it is difficult to make such Rhymes, I assure the reader that with a little practice, and a study of synonyms (see below), and — ignominious as it sounds—a Rhyming Dictionary, the concocting becomes very quick and easy.

I add an alternative, taking the Headings in their 'CRISPER COAT PLUMES' order.

Her **Character** (brave, frugal, grave, obedient to the State),
her **Romanising** faculty, her schemes to **Isolate** ;
her **Senate**, her **Position**, her **Extension** by degrees
of her privileges, **Roads**, and **Forts** and **Colonies** ; to these
and her **Organising** genius, and **Alliances**, we add

her Treachery and the Powers supreme that every Pater had,
 Luck, Unity, the Mixture of the Peoples in the town,
 The Etruscan kings who raised the folk, by Struggles sturdier
 grown.

Rhymes do not suit all people equally well, and anyhow they are more liable to be abused than any other Memory-System: *they lend themselves more to the 'Poll-Parrot Memory'.*

The ideas themselves must be fully *realised before* Rhymes are attempted. I insist on this.

Alliterations are closely akin to Rhymes, and are much helped by similarity of Rhythm. I will suggest just a few here, for some of the Causes of Rome's Success.

1. *diplomacy, division of enemies, discipline;*
2. (*Rome*)—*Romanising, roads, rolling on gradually, roguery, rows of disciplined troops, acting by rote, and (at first) with royal leaders.*
3. The *Roman Religion* might be described as not *dealing with dogmas or ideals, but with dull indefinite divinities, and as having no charity or priestly caste, but as consisting rather of correct ceremonies.*

In this last instance, observe the two kinds of Alliterations, viz. the similarity of the sound, and the similarity of the appearance of words (e.g. *charity, caste, ceremonies*).

XXVI. In the above Rhymes have been included *Rhythms* (of a sort!). If Rhymes are fairly old,

Rhythms are far older. Rhythm appeals to the savage and to the brute beast far more than mere Rhymes alone.

As English Rhythm has already been illustrated, I shall give here a Latin Rhythm, the Hexameter Metre. I do not defend the *Latin* as good, for I am cramped by keeping practically to the order in 'CRISPER COAT PLUMES', viz. Character, Romanising, etc.

I recommend better scholars than myself, and better verse-writers, to turn their great faculty into a somewhat more *useful* channel than that to which at present they rigidly confine it. The good they do with their beautiful 'Fair copies' is extraordinarily small: the good they might do by turning into metre useful lists (such as lists of Constitutional Changes in History) they can hardly realise. I only ask them to use their reason and *think over* the matter.

Quomodo Roma Italiam subigit?

Mōribus haec subigit, mōrēsque et iūra subactis
dat sua, sic tamen ut divīsīs imperet ūna,
multa iuvant Patrēs, Rōmae situs ipse, colōnī
atque viae; sociī, tum disciplīna deūmque
cultus, et illa fidēs pēior quam Poena; potestās
patria. Tum fortunam urbis, fortissima vincla
quae iungunt adeō diversās sanguine gentēs,
Tuscōrum adde et opēs et grandia facta tyrannū,
utque per hōs crēscat luctandō strēnua plēbes.

XXVII. *Music* has not yet been much used to help the memory, but if the idea were developed it

might be of value. A tune might help some minds to remember the Rhymes.

XXVIII. *Epigrams and pointed sayings* are usually exaggerations: but, if we keep that in mind, they will be found useful helps. They, like absurdities, are apt to impress by their very unexpectedness; and they also arouse our interest because they force us to examine them, to think about them, and often to refute them.

I offer a few here—the list might be multiplied *ad lib.*:—

1. 'Rome in Italy was the leaven in the loaf: her nature spread itself everywhere'.

2. 'All roads led to Rome: there were no good cross-country roads in Italy: they were the legs of a huge spider, attached to the body and not to one another'.

3. 'Divide et impera' was her motto in dealing with her enemies and her subjects.

4. 'Geography is the palmistry of History: it will help us to guess the past and to foretell the future of a country, if we only read rightly the lines themselves, and read rightly between the lines.'

XXIX. These various Systems can be used in *combinations*, especially where something is very important. And, again, they can be used as *alter-*

natives. One will be found more suitable than another

(a) for various subjects, and

(b) for various individuals.

Experiment and experience will alone enable each reader to choose and to decide for himself.

XXX. *Practice* is a rule of success that applies here as everywhere. I shall keep my suggestions on practice till Section XXXIX., except for the remark that it is very easy to have a great deal of practice, and to get little or no good from it, if the practice is not of just the right kind and if it is not done in just the right way.

PART III.

THE HELPS TO MEMORY, APART FROM MEMORY-SYSTEMS: IN DETAIL, WITH FURTHER EXAMPLES.

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SECTION VI. HEALTH AND GOOD CONDITIONS.

THE subject of Health I have dealt with in more detail in several books. The first, 'Muscle, Brain, and Diet,' was published by Sonnenschein and the Macmillan Company of New York. It is a plea for Simpler Foods.

Other very important questions, such as the position of the body, is discussed in a work on 'The Training of the Body', which is published by Messrs. Sonnenschein and Dutton of New York.

There are instances where people seem to work better while they are unhealthy, for example, while they are feverish: but few would deny that, as a general rule, the Memory is best when the Health is best. By 'Health' I do not mean merely the physical strength or physical endurance of a trained athlete, who perhaps has developed his brains rather less, in proportion, than an average horse; for this is not true 'Health', but only one side of it. The whole person cannot be 'healthy' as long as so much of his most important self remains almost unused.

By 'Health' I mean all-round 'Health' and development, physical, *and* mental, *and* moral, *in*

proportion to the faculties which the individual has inherited, and in proportion to the conditions under which he has been able to use these faculties.

There is apt to be another misunderstanding about 'Health': 'Health' is a term which is often applied to the state of people who are not suffering from any *recognisable* form of bad 'Health', i.e. who are *not* absolutely *ill*. This is a coarse test, and to say that every one who is not ill is therefore 'healthy', is like saying that anyone who does not sin against the *letter* of certain Commandments, e.g. who does not murder or steal, is therefore a virtuous man. Virtue includes 'not doing harm', but it goes far beyond the negative and includes also the positive and *active* 'doing good'—there must be a *living tendency* to do good.

So it is with 'Health': it is not a negative state, 'not being ill', but a positive and active life, which includes, among other things, a tendency, or rather a desire, to do good work, and the power to do that work *well* (a power relative to one's natural faculties, etc.).

For, after all, 'Health' is like most other things—'by their *fruits* ye shall know them'. And one of the fruits of true 'Health' is the power of learning and remembering things—or rather the tendency and desire to learn them and remember them really *well*.

This is one of the finest tests of 'Health' that we

can apply. If we fail to satisfy its requirements, we had better look to our way of living, possibly to various items, but almost certainly to our food.

Before I begin, however, let me say that, as *individuals* differ, each individual had better keep a careful register of his *personal experiences*—this will be his safest guide. For the right and the wrong way of keeping such a register, see the above-mentioned books.

‘Health’, and with it Memory, will greatly depend on the purity and the vigorous *circulation of the blood*; which again will partly depend on the air (see below), partly on the food (see p. 62), and partly on other conditions.

The *food* must be not only *nourishing*—it must not only contain *enough* of the right elements (especially Proteids)—but it must also be free from impurities. *Impurities* are not always due to excess, though excess is one cause; far more often they are due to actually impure elements in the food, and especially to *stimulants* or to narcotics. ‘Moderation in *all* things’ is an accursed Proverb; it has done a vast amount of harm in the world, chiefly because it has sounded *so* plausible.

But if we avoided deficiency, excess, and the wrong things (for a list of which, see XXVII.), we might still be making a serious mistake, e.g. by eating too fast, or by drinking at or soon after meals.

Besides food and feeding there are many other helps to Health, and among them is *moderation*: thus to stop the work when we begin to feel tired, if indeed it be feasible to do so, will often save the Health considerably.

Nor does to 'stop the work' necessarily mean to be idle: for a *change* of work is often the truest rest. We can change either

(a) the subject, or

(b) the place at which we are working, or

(c) the method in which we are working, or

(d) the conditions under which we are working: e.g. we can work standing instead of sitting—a hint for Schoolmasters, by the way.

Sleep is too obvious a form of rest to be more than mentioned here: but I have made some suggestions, which may be of use (about sleep and muscular repose), in 'The Training of the Body'.

Exercise, it is needless to remark, is a valuable aid to Health: it should not be too violent, especially just before or just after work—another hint for Schoolmasters. Gentle and short spells of exercise of the right kind at intervals between work are a great help: it is possible that these alone may enable a worker to do twice as much work in the day. The best exercise is in the form of Games: for Games, owing to their enjoyable excitement, actually improve the 'chemical' condition of the blood, and serve as a fine nerve-tonic.

Massage is a sort of substitute for, and complement to, exercise. For improving the circulation, for instance, it has a great value.

Bad conditions, such as temptations to excess of any kind, should always be shunned. It is too common a thing to see some one *lead himself* into temptation, and then—fall. If, for example, you cannot go to a dinner-party without over-eating and over-drinking, then avoid the dinner-party itself. If the inviter is not satisfied with your desire for Health, as your excuse, then—harsh as it may sound—the less you have to do with him the better, until he learns to respect this reason.

One of the easiest ‘bad conditions’ to avoid is the wrong *position* of the body: the sideways positions, the cramped position, the excessive sitting, all may be hindrances to ‘Health’ and to the Memory. See further the book on training and athletics, to which I alluded just now.

The *Temperature* one cannot always so easily control. ‘Feet warm and head cool’ is the soundest maxim here. Some helps to achieving this as a regular state are given in the same book.

Good air and good ventilation are often still harder to insure. On a railway-journey, in Church, in Lecture-rooms, in Dining- and Drawing-rooms, and elsewhere, there will nearly always be *some one* who will insist on the windows being shut. Your bedroom will often be your only chance unless you

work out-of-doors. We are better off than most other countries, but the Nation has still to learn what can be done for Health by fresh air—what can, in fact, be done for Health by no other means. America in the winter is a terrible country for bad ventilation.

Light is an important factor: as I shall show in this same work, bad light does not injure the eyes alone: it injures the whole body, as plants might lead us to judge, and, when one is sitting down, bad light is apt to encourage stooping. I know this to my cost.

Surrounding sights, and sounds, cannot always be under our control. They are apt to be very distracting to the attention, and therefore very great obstacles in the way of learning and remembering.

But there is here a *problem* which has hitherto received but little attention. If we get into the habit of doing everything under the best possible conditions of health, such as food, change, sleep, exercise, position of the body, temperature, good air, good light, and freedom from distracting sights and sounds, then how shall we fare when we want to remember the various things under more adverse conditions? In a hot stuffy room where there is a great deal of noise going on, for example, how shall we manage to remember?

I have tried to suggest a solution in an article on '*Practice*': it is that we should begin by practising

things by parts under the easiest and most favourable conditions, and then, when we have got these parts well under our control, practise them under less favourable conditions.

For, obviously, if we begin to try the things under the hardest conditions, we are little likely to succeed: whereas, if we can once become fairly proficient, then we shall be prepared for the hardest conditions, and we shall find them less hampering. We shall not 'do ourselves justice', but at any rate we shall not break down altogether.

Teachers, however, are often wont to neglect all or nearly all of these considerations, and to try to train the *will* alone, although, as a matter of fact, unless the above considerations have been attended to, the will can seldom be given its fair chance. In the case of a few isolated individuals, sheer force of will may work miracles: but these are the brilliant exceptions. The will-force of the majority depends to a very great extent upon 'Health'—more upon that than upon any amount of conviction that a certain course of action is right in itself and, in the long run, profitable. I appeal to the experience of ages rather than to the theories of philosophers.

Nevertheless, the *will* is a most potent factor in learning and remembering well: and the will, like everything else, needs to be practised, and to be practised in the simpler things first before it is

brought to deal with the harder things and the less favourable conditions. Train the will in easy things under easy conditions, and you will have strengthened it against 'the evil day'.

I may mention here my own experience, that there is in the mind something very like a 'faculty' for practising: if you use your *will*, and steadily practise any one good thing rightly, you may thereby acquire a power, a sort of a 'faculty', for practising any other thing rightly. Few have this 'faculty' by nature, and few trouble to acquire it.

Morality is of course a most essential condition of a continued good Memory. And morality, it must be remembered, consists not merely of actions, but also of gestures, looks, spoken and written words, and thoughts. Our morality depends *partly* upon our own free will and choice, and partly on the things which we cannot help feeling, seeing, hearing, or reading. But morality may also depend on Health to a far greater extent than clergymen and teachers and parents are apt to suppose.

As to the question of *time*—

(a) 'When shall we try to learn and to remember?' can be answered briefly by the words 'Whenever it is possible or at least feasible'. This will include hours, minutes, and moments, when otherwise we should be idle, such as for instance while we are waiting for some one or something, or while we are in a bus or car or cab or train. These are

the best times for practice. And we should always keep a stock of things to be practised.

(b) 'After doing what?' *Not* immediately after severe exercise, and not immediately after 'severe' feeding—if you *will* feed severely. And not just *before* either of these two.

(c) 'For how long?' Tiredness is not always a safe test—we are sometimes so interested in our work that we work too long. The feeling of tiredness only comes when we have stopped. Then again, there is sometimes work to be done by a certain time: we cannot afford to rest—we must toil on and on till we have finished the task.

With these two exceptions, however, 'Work till you *begin* to feel tired' is a safe general rule. When you *do* begin to feel tired then rest, take exercise, or change the work.

It will be essential to have at your fingers' ends change-subjects for work, or new methods of dealing with the subjects: this preparation of materials and methods before they are actually wanted is a Principle almost universally neglected by those whose labour is with the brain. And terrible is the consequence, and the waste of time and energy beyond calculation.

Besides trying the change of work, you should also resort to the special 'exercises' for relaxing the muscles of the body: there is nothing more refreshing. For example, stand with bent legs, and

with arms hanging down quite limp and as a dead weight, and with a contented smile on the face. There will follow a feeling of quiet and contentment—unless you try this in public! It is almost incredible that, during this exercise, the attention can be concentrated on the subject quite easily. I suppose it is that the magnetic force or nerve-energy is not dissipated through tightly clenched hands or stiff legs, etc., but flows all into the work of the brain, or stores itself up for future use.

By the way, there are many Periodicals that deal with this and other valuable means of rest. Thus in New York alone there are two excellent papers, 'Health-Culture' and 'Physical Culture'; the Battle Creek Sanatorium (at Michigan) has very useful suggestions in 'Good Health'. There are several good English Periodicals on Health (e.g. 'Health and Strength', and 'Sandow's Magazine').

Note 1. Since I wrote the above, I have had some lessons in Nerve-training, from Mrs. William Archer (of 9 Fitzroy Square, London, W.). She was a pupil of Miss A. P. Call, of Arlington Street, Bolton, Mass. I have learnt that the body-muscles can be most easily relaxed while one is breathing out after a deep in-breathing.

Note 2. The most palatable of all the Foods that are easily digested is 'Plasmon'. It is nourishing, and is not a stimulant like the Meat-juices.

SECTION VII. CONCENTRATED ATTENTION.

OUR power over our attention must to a great extent depend on our own free will, which I believe must in its turn depend to a great extent not only on our *habits* but also on our *Health* at the time being.

Variety and changes, however, combined with gigantic efforts of will and backed up by the habit of concentrating the attention, and by good *Health* at the time—even all these will sometimes fail if the subject itself lacks *interest*.

You will feel inclined to say ‘If the subject itself lacks interest, it cannot possibly—be interesting: you cannot *give* it an interest’.

Wait a little before you decide: it is possible that we may not be able to *give* an interest to the subjects, but may still be able to *discover* an interest in them already, and, having discovered it, to make the most of it.

The power of concentrating the attention on one particular thing, and of not letting it be distracted by anything else, is sometimes a natural gift: but, like most natural gifts, it *may* be acquired and improved, if only we can find out the right method, and can make up our minds to use it.

In the case of Napoleon, who did so much by his

'concentration', I suppose we may speak of a great natural facility increased by habitual use.

Much will depend on this—we must rigidly insist on doing *only one thing at a time*, and that one thing must not be complex but must be simple. It will be of little use for us to begin by telling an ordinary child to concentrate its attention on the words. "C-A-T spells CAT—there is a cat on the rug". Simple as it may seem to us, this is really very complex—the sight of the whole word, the sight of each letter, the sound of the whole word, the sound of the name of each letter (altogether different from the sound of the letter itself, in the case of C and A), the sight of the cat itself, and the 'idea' of cat—this is not so simple after all, is it?

The 'energy' which is stored up within us can be 'let out' by means of e.g. the limbs, the eye, the ear, or the reasoning faculty. If we wish to do the work well we must *try* to let it all out by means of as few exits as possible—I do not say by means of one single exit, for that may be almost impossible, at least as a rule. But 'one sense at a time to start with' is a useful, if inaccurate, piece of advice. Let there be no 'distractions', if you can help it. 'One *thing* at a time, and one *way* at a time'—remember this golden rule.

The work which at first needs an effort, a distinct and conscious and 'willed' effort, must, after constant and careful practice, become by degrees easy and

natural and almost or quite automatic: at the beginning the labour and the clumsiness will strike you most, but that is, in many cases, inevitable, if you wish ever to succeed.

And here I would point out that this concentration of attention does not mean 'No change'—it means that, for the time being, there is to be 'one simple thing done in one way', there is to be no 'distraction': but this is only for the time being. *After* you begin to get weary of this, or even before, you can change to

(a) 'another simple thing done in the first way',
or to

(b) 'the first simple thing done in another way'.

Read and realise this twice, for it is important.

This *variety*, in fact, is essential for the attention: without it the interest is bound to flag. But, even with a great deal of variety, even if you attack the same thing in *many* different ways (see XLII.), or apply the same way to *many* different things, even then your attention may flag, and may be 'distracted', unless you determine to keep it well in hand.

An effort of *will*, then, cannot be dispensed with: you must *will* to bring back your attention again and again, to 'collect' it and to focus it on the matter in hand. Throw your whole will into the work, just as, in ordinary practice for Games, I should advise you (as Sandow does) to throw as it were your whole will into the muscles.

SECTION VIII. **INTEREST.**

THERE is no law for teaching (and therefore for learning and therefore for remembering), which has been more neglected—till recent times, at any rate,—than the law of interest. But in future years, thanks to the efforts of Froebel and others, we shall see this law gradually introduced more and more thoroughly into our Educational methods. It is already being applied to Primary Teaching: in a few centuries we may hope to see it introduced even into certain departments of teaching at our Schools and English Universities.

‘How can this subject be made interesting?’ must be a great problem for teachers, for learners, for would-be rememberers. So long as we omit the ‘motives of action’ from the subjects which we study, so long we shall fail to solve this problem, unless we happen to have been born with the genius for solving it. But, when once this subject of the motives of action, the incentives to action, has been carefully sifted, not only have we an enormous help ready to hand for teaching, learning, and remembering, but we also find a new field for observation opened to us—the great field of human action in the world.

Now it is often said that, when we appeal to people's motives, so as to get them to do something, we should always appeal only to the highest. This is a gross error, and savours of the theorist working in a study from which all the sights and sounds of living human beings—to say nothing of good air and good light—have been carefully shut out.

By all means appeal to the highest motives—let them be as high as possible: say to the learner or to yourself 'You may benefit others; you may improve the nobler powers of your mind'. But don't for one moment imagine that any motive besides these must be bad. No: if you say also 'You may *succeed*, you may gain fame and respect, you may gain a good position, you may gain money and the good things that money will buy', you will probably be far more likely to persuade, to arouse real *interest*, to enable the learner or yourself to *concentrate* the attention, and so grasp and remember the subject itself.

These motives, believe me, are not within us that they may be ignored: they are meant to be motives for, and incentives to, good work.

Nay more: you may find that the motive that will really influence a large class of learners more than any other will be rivalry: not necessarily the desire that others shall fail, but the desire that for one's own part one may succeed more than others do, or—the noblest rivalry in the world—more than one's former self.

These 'motives' would often arouse interest and help the attention.

The desire to escape punishment is a still lower 'motive': but no one who has seen a Public School 'at work' can deny its power. It is still a great lever, and, as such, it should not be misused. To apply this 'motive' so as to compel boys to master

Those huge dull useless lists of *things*,

Dates, Rules, Exceptions, Prophets, Kings, seems to me little short of criminal. If any one is more responsible for this than another, it is the Head Master: *he* has it in his power not to let these *things* be asked in Entrance Examinations or taught in the School; speaking of the *typical* lists, I say that they are not wanted in after life, and that they often instil a loathing for Bible History, for Geography, for Greek, for Latin, and for a great deal more as well.

Another help towards 'interest' is to keep *your own records* of the time it takes you to do things, of the ease with which you do them, of the quality of your work, of what you find to be the best conditions for working. The record will make the work itself interesting. How a man *loves* his own production—'a small thing yet his own'. The 'self-rivalry', which these records almost compel, is a great aid to progress.

And as to the *advantages* which may come to

you, or to your friends, or to many others as well, if you yourself do your work well, do not consider merely the immediate advantages, but reflect that a concentrated attention practised now, and hence a memory well stored now, will be your most valuable possession in future years and—in the future life. And, if you still need an incentive, reflect on the many disadvantages of forgetting.

‘Interest’ in a rather different sense is somewhat harder to explain: but you will realise what it means when you tell an interesting fairy-story to a child: the child has no ‘ulterior motives of gain’, but yet is ‘interested’, sees the whole picture you are painting, and acts the part of, and almost *is*, the actual hero or heroine.

Some will be interested in one thing, or one aspect of a thing, others in another thing, or a different aspect. But there are certain things that appeal to nearly every one.

The appeal to the *eye*, by what can be clearly seen or at any rate can be clearly imagined or pictured in the mind, will ‘interest’ most learners, and help them to learn and to remember—this is especially the case with the young; but I see no reason why we should lose the faculty, as much as we are wont to do, as we grow older and come to think rather by means of ‘ideas’ or—alas, often—by means of words, vague words.

The appeal to the *ear* will ‘interest’ others. They

SECTION IX. TO COLLECT HEADINGS.

SUPPOSING you already have your List of Headings (e.g. see XXVII., for a List of 'Mems.' of what you have to do during the day), then of course the collecting itself will be as good as done.

It may be necessary, however, both here, and in the case where the Headings are not so easy to collect, to express an idea, often a whole sentence, by as few words as possible, and, if it is possible to do so without being obscure, by one single word. If "you have to call on Mrs. Jones at 43 Bingley Place", the word 'Jones' may be enough, or 'Jones 43', if you are sure to remember 'Bingley Place' all right.

But the art of thus compressing ideas or whole sentences is not born with every one: look, for instance, at the people concocting telegrams in a Telegraph Office—how hard they find it to compress; you can prove this by the bitten ends of the public pencils—*that* would not be done for mere pleasure! Or you can prove it by the result—the obscure message which might mean three things or nothing.

If you want practice in 'compressing', and you almost certainly do, then 'compress' a Chapter of a

book (often the Chapter will have its own Headings, which you may compare with your own), or a sermon, or a conversation. It is not a bad occupation for odd moments. For other hints, see 'How to Prepare Essays, etc.'

For the uses of the Card-System, also, I must refer to this same book; but I may say here that continued practice at summarising ideas by Headings, and at using the Card-System, has helped to make my work at least three times as rapid as it used to be, and many times—I will not say better, but—less bad, and more successful.

But let me assume that the Headings are not yet all gathered together. You know there are some things that you have not written down, but, for the life of you, you cannot find them. What are you to do?

The right way of collecting Headings is almost entirely neglected in education in England. In the above-mentioned book I have given some hints on the art—for it is an art: here I will select only a few points.

As a rough-and-ready plan for recalling ideas or Headings, try the Alphabet. All words must begin with one of the letters as an *initial* letter: and the initial (see XXVII.) will often suggest the actual word. It is an old plan, and very useful.

Other helps, especially if your subject is of the Essay- or Article- or Speech-type, would be

(a) to work out your own ideas on the subject before you go and consult a book or Encyclopædia; it is a great error to learn from others if you have time to think the question out for yourself. Your home-made notions may not be complete *per se*, but they will be easier to remember, and more profitable for the mind; common sense (see XVII.) must be brought into play, especially with regard to

(b) comparisons and contrasts (XVIII., XIX.);

(c) picture-painting in the mind may very likely bring out some detail.

After your first collection—always supposing that you have the time to spare—leave an *interval*, and then add any new Headings that may have ‘come’ meanwhile. Then add other Headings by reading, asking, talking, or hearing about the subject.

It is needless to say that books, articles, questions, conversations, lectures, etc., may all add something. All, moreover, will give you practice in collecting Headings (*before and after* reading or listening to the book, etc.), if you will only use the opportunity.

To think over certain subjects at odd times, and to jot down the Headings in a Note-book afterwards, is also excellent practice.

Of Complete Lists of things as a help towards the collection of Headings, I shall speak in the following Section.

While you are collecting the Headings, use plenty of paper, and write the words under one another, with spaces in between, so as to leave room for additions. False economy is as bad a thief of time as procrastination.

SECTION X. COMPLETE LISTS.

IF you have ten things to do, and have not a very good memory, it is obvious that it would be quite easy to recall *all* of the ten things if any one showed you a list which *included all* of the ten, even if it happened to include ten others which you did not want to recall. This is one of the many instances where excess is better than deficiency.

Supposing, for example, that you wanted to plan out a house, and that you wanted to remember *all* the rooms, and to leave out nothing of importance, it would probably be quicker and easier and safer for you to *choose from a complete list* of rooms, even if that complete list went far beyond what you needed, than to trust to your own memory, as the man did who planned his own house and—forgot the staircase.

Again, if you were going for a long or a short journey, it would be a great help for the memory to have a (more or less) complete list of things which might be required: it would be so simple to choose.

There are many subjects where this applies with no less force: for examples, I refer the reader to the above-mentioned work on Essay-writing.

Of the use of the Alphabet I have already spoken. It is a complete list of the initials of all the words in our Language: X and Z can usually be disregarded.

Webster's Dictionary would be nearly a complete list. In certain Competitions which were the rage some years ago, especially in those for finding out all the words to be got out of some one word, there were many who went through pages and pages of a Dictionary, so as not to miss anything. But this course is, as a rule, impossible—the time and the trouble forbid.

The reader will decide for himself whether there *are* any complete lists that would help him. I have already spoken of a list of things for *journeys*, and of lists of Headings for *Essays*; similar lists for History, for Geography, etc., would have their value. And, with regard to these, I would mention here that these lists are not mere 'cramming': they do not so much tell you things as ask you questions, as if they were saying 'Here is a Heading: is *this* what you are looking for? Do you know anything about this?'

These complete lists themselves can be easily remembered by the various Systems, especially by Linking (XXIII.), by Initialising (XXVII.), or by Rhymes.

A single instance will often give a complete list: the best example of all would be a complete list

of virtues, which would be given by the life of Jesus. This has the advantage of starting with what is concrete, and thus easier to realise.

In the various kinds of Essays which are usually set in Examinations, there are certain General Headings which are of almost universal application. Some of these are given in Rhyme on pp. 83, 92, etc., of the book on Essay-writing: it is explained there that the Headings are not facts but rather the means of eliciting facts, etc., which we already have in our mind; and the means of eliciting more of these than we should otherwise be able to elicit.

SECTION XI. TO SELECT AND REJECT HEADINGS.

I WILL suppose that, somehow or other, the reader has collected a list of Headings, written down in a line, one under another, and *not* in a continuous list. Do not let him write the words all huddled up in a mass : or grudge paper, for it is very cheap. If he *must* economise (from nature or from necessity), then let him use cheap paper : but let him not spare the paper and spoil the work.

These Headings will be such that each will call up a whole idea, or even two ideas. They will not be the ideas themselves, but will only *represent* them, somewhat as a Member of Parliament is not his Constituency itself but only represents it, or as landmarks between one place and another are not the track itself but will be enough to enable you to find the track.

A great deal of time and trouble will be saved if you can manage not only to collect but also to *select*—which will mean to *reject* as well. You must *economise*, as far as possible.

You may select either

- (a) the most useful and important Headings ; or
- (b) the Headings hardest to remember.

You may reject either

(a) the most useless and the least important Headings; or—though it is *not* a good general rule—

(b) the Headings easiest to remember.

So long as Education is what it is, so long as punishments and marks and money and success and future prospects depend, if only in part, upon 'huge dull useless lists', it would be of little use to advise the reader to reject these lists altogether. I can only say to him, 'Reject as much as it is *feasible* for you to reject'. In an ordinary Map, for instance, you may usually (for ordinary purposes) reject nine-tenths. The sad thing is that it is no simple task to reject—that is to say, to 'reject' in the sense of 'forget'. There is some truth in the Epigram, 'The hardest part of remembering is the forgetting'. This exaggerates the case, as Epigrams (XXXIII.) are wont to do, but to reject and forget the 'not-wanted', and to select and concentrate the attention on the 'wanted'—this is indeed one of the secrets of a good and useful memory of the highest type.

SECTION XII. **TO ARRANGE AND EMPHASISE HEADINGS.**

I WILL imagine that you have already collected and selected your Headings: you must now take in hand the Herculean task of arranging them.

The art of arranging Headings, again, is little taught in the ordinary English Education: I cannot teach it here, but have tried to do so in my work on 'How to Prepare Essays, etc.' (p. 172 foll.).

There is, there must be, at least one best possible way of arranging any given list of Headings, if we set aside those lists (such as a list of engagements) where the order is fixed already. Now we may not be able to *find* this order, but the very search for it will have its good effect. There is scarcely any department in life, from dressing in the morning to going to bed at night, where a consideration of the best possible order (for general occasions) will not be worth while.

I say for general occasions, because, in preparing a speech for instance, the order will differ according to e.g. the length of the speech (5 minutes or 30 minutes), the audience (pedants or workmen), and various other conditions (e.g. whether it is to be made before or after a large meal).

Notice the difference in packing luggage: you have shoved the things anyhow into your bag—it looks so full that you haven't room for all you want

to take. Then, when you want something during your journey, you can't lay your hand on it at once. Out must come sponge-bag, boots, and hair-brush, before you can find that handkerchief. But study the art of arranging things, and the bag will hold more, and you will know just where each thing is.

For the purposes of arrangement I know of nothing better than the *Card-System* (see the book mentioned above). There is not space to explain it here: I can only say that one of its principles is to write down Headings each on a separate card and not all together on a single sheet of paper. By this plan, you can easily add, take away, alter, or rearrange.

'*Indenting*', again, is a great boon. It means that you need not write all your Headings under one another: the *main* Headings can be written thus, but *Sub-Headings* can be written a little 'inland'. Thus we might take one or two of the Headings of this Section, as follows:

HOW TO ARRANGE HEADINGS.

Card - System - for

additions
alterations-
esp. of order

Indenting

- distinguishes
Important Headings
Sub-Headings
groups of Headings

Diagram III.

We see here that the two Main Headings come in a line, and the two Sub-Headings of each are 'inland', more to the right and out of the way.

By 'indenting', then, you can show which Headings are important, and which are not so important but are only subdivisions *under* these important Headings: 'indenting' is thus a convenient way of marking off Headings into *groups*.

The order itself may be according to

(a) *importance*—the conspicuous places being the beginning and the end—; it will therefore be necessary to decide which Headings are the most important: see below ;

(b) *unity*: Headings which belong to the same general class (such as 'the Romans in their dealings with others'), should be grouped together ;

(c) *some connexion or transition*: if one Heading will call up an idea which will in its turn lead you to think of another Heading, then these two Headings should be kept next to each other: thus, above, the Heading Roman 'Colonies', which were partly intended to guard the 'Roads', might come next to 'Roads' ;

(d) *cause and effect* form so powerful a means of connexion and of transition that they deserve a separate mention: thus Rome's 'Geographical position' would cause the 'Etruscan Kings' to invade Rome, and their invasion might be one of the causes of the Romans being a 'Mixed

People': hence these three Headings might come together.

Notice that, with this arrangement, to remember *one* idea will often lead us to remember *the ideas on either side of it*. We can work backwards or forwards.

(e) Connexions of *sound* (see further Sections XXIII., XXX.) are by no means to be neglected. But these must be classed rather under the 'Memory-Systems'.

Re-arrangement after an interval may be a wise plan: somewhat as things that have been packed in a box are found 'shaken down' and better arranged after a journey, so it may be with the brain, owing to what they call 'unconscious cerebration'.

I spoke above of emphasising a Heading by putting it into an important position, the most important positions being the beginning and the end, as one might almost guess merely from the way in which some people treat novels!

But there are other means besides this, and they are well worth a little attention.

The **Emphasising** of the most useful Headings, or of those which are hardest to remember, can be secured not only by the order but also by

(a) *intervals* before and after, corresponding to *pauses* in speaking; one particular point is thus made to stand out from among the rest;

(b) *underlining*, printing or writing in italics, in

thick type, in **CAPITALS**, in **THICK CAPITALS**, or in **unusual type**; these would correspond chiefly to *loudness* and stress in talking, but also perhaps to some extent to differences of note; [the illustrations of a writer in his book or article might correspond in a way to the gestures and surroundings of a speaker in his speech].

The great feature is that the attention is attracted: sometimes the means are rather startling.

To give a simple instance of the power of differences in type: when I wanted my Classical pupils to remember that the Ending of the Dative Case was—AI, I wrote dAtIve, thick-typing the first two Vowels of Dative; similarly the LAtIn AbLAtIve reminds them that the Latin Ablative was a three-fold Case, *Ablative Locative* and *Instrumental*. See 'How to Learn Philology' (Swan Sonnenschein).

Practice is essential, or else we shall not be able to arrange quickly, or to decide quickly what is to be emphasised, or to emphasise it quickly. And among the best forms of practice is what may be called the

"one two three

(a) (b) (c)"

System. An illustration will be found elsewhere.

Let me give one final warning with regard to emphasising. Don't use emphasis where it is unnecessary. Don't underline everything, or write everything in large type.

There is a well-known story of a workman who swore so much on ordinary occasions, that on one occasion, when he was really annoyed, he could say nothing fresh—he could not add anything to his former blasphemies and foulnesses, and nothing that he could say could give him what he called ‘the feeling of a real swear.’

The Americans offer a similar warning: so habitual, so ordinary and commonplace has it become to *advertise* everything with huge letters and Notes of Exclamation, that these things have almost ceased to be a sign of emphasis at all: they have become a *sine quâ non*.

Therefore, don't emphasise too many things.

Note. Small Cards, on which ideas can be written as Headings, together with a convenient Mem.-Holder and instructions, can now be obtained from Messrs. Henry Stone & Son, 62 Berners Street, London, W., and from Mr. J. M'Hugh, 42nd Street and Fifth Avenue, New York. The price of the Holder, with 12 Compartments, 1000 Cards, and book of instructions, is 10s. 6d., and \$5.00 (Five Dollars).

SECTION XIII. TO FIND CAUSES AND OTHER CONNEXIONS.

WHILE speaking of the arrangement of ideas, I said that it was a great help if, in a list, we could see that certain Headings were connected as *cause and effect*, or in other ways. I must be content here to do little more than repeat what I said above, viz. that there are many who cannot learn things (and therefore cannot remember them) unless they understand them first, and who cannot understand them *properly* unless they see the causes and effects and other relations. To take an example, if one wanted to learn and to remember about Egypt in olden times, and what kind of people the Egyptians were, and what kind of Government they had, one would read Buckle's famous Chapter in his 'History of Civilisation in England'. He gives some of the causes, such as the richness of the land, and the huge numbers of people that it will easily support. After the causes have been grasped, the facts will be readily learnt and will be remembered for ever.

It is needless to say that the mental exercise of finding out causes is most excellent for the reasoning faculty.

As a help, I should suggest '*genealogical trees*.' Thus, if we wanted to get an idea of some of the

evils of to-day, we might take *one* of the causes, viz. 'Alcoholism,' and see what effects it produces: I will select one or two effects.*

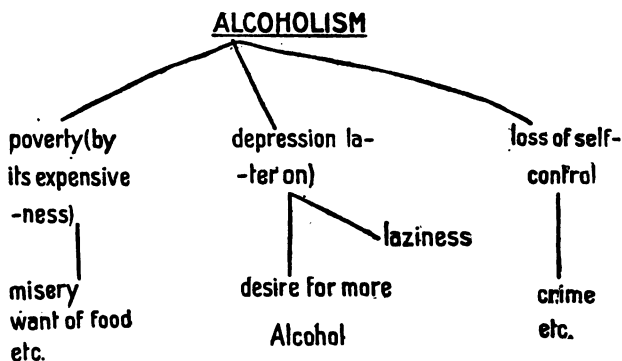


Diagram IV.

For an instance where a single central cause will account for a whole series of Headings, thus gathering them together into a kind of (unhappy) family, see 'The Evils of the Republic' in 'A History of Rome' (Grant Richards). The Diagram might here take the form of a spider—the body (representing the central cause) in the middle, and the legs (representing the effects) going out from it in all directions.

Such Diagrams are good, because they appeal to the *eye* as well as to the *reason*.

Causes and effects are not the only relations between Headings: besides causes we have *helps*. *Hindrances* also are worth considering.

* See further 'Muscle, Brain, and Diet'.

SECTION XIV. ROUGH OUTLINE AND FRAMEWORK.

IN learning certain subjects it is a common error to begin by learning a detail before the general outline has been grasped. We may have concentrated our attention, we may have 'interest' in the subject, we may have a whole mass of good Headings, collected, selected, and even to some extent emphasised and arranged; but yet we may fail to learn the subject properly, i.e. so as to remember it and to be able to make use of it. How often we see a *specialist* who is an expert at his particular department, but who yet cannot be said to know the subject: consider, for instance, the bookseller's clerk who knows prices and Publishers' names ad lib., but is ignorant on the subject of Literature. Or, to make a comparison, how often we see a picture in which each *part* is carefully and accurately done, and which yet cannot be called a good picture. The general effect is bad.

Now as, in a Map, we must be content with an outline which always will be inaccurate (it will never represent the coast-line *quite* accurately), but which still *serves our purpose*; and, as few of us can do a good Map without doing a rough outline first,

or a drawing without a rough sketch, so it is with many subjects: we must be content to put the details on one side till we have got a general grasp of the whole.

A *Proverb* is a very good instance of the effect which such a rough outline has upon the memory. It is so easy to remember those short crisp simple Proverbs: but most of them are *inaccurate*.

How shall we defend this? Is it right to learn things that are inaccurate? Yes: *to begin with*, it often is. Afterwards we must correct and emend and fill in the picture, but at the outset it would frequently be quite wrong. We should be so overwhelmed by details that no useful impression would be left.

After all, we probably get accurate ideas about very very few subjects in this world: we can only know 'in part'; and as long as we constantly bear this in mind, viz. that our knowledge is only a convenient approximation to the truth, that it *is* only a part, the danger will not be so great.

But, as I say, *when* the general (and usually inaccurate) outline has been once grasped and digested, *then* the details and the corrections will fit into their proper places, and the parts can then be mastered individually.

SECTION XV. TO REALISE

AGAIN and again and again we are told to understand things, to grasp them, to *realise* them. We should like very much indeed to do so, but it is just about as useful a piece of advice as telling a beginner at cricket to 'play well'.

I shall try here to give the gist of what I treat in more detail in the Essay-Book.

Let me begin by asking a question that will sound quite off the point: "What do children like?"* Among the answers there would be these—they like personal stories full of details, they like pictures, they like acting, they like doing one thing at a time, entering into it heart and soul.

The *personal and concrete instance* lies at the very root of realising. Let me take an instance or two.

(1) Mr. Stout begins his Manual of Psychology thus:—

"Let us suppose that a man . . . is *testing* the quality of a cigar. He *looks* at it; he *feels* it; he puts it to his ear and *listens* to the crackle which is a mark of dryness; he *smells* it before commencing to smoke . . ."

* The answers to this question would tell us a great many of the principles of learning and remembering.

(2) Prof. Michael Foster begins his *Physiology Primer*:—

“Did you ever on a winter’s day, when the ground was as hard as a stone, the ponds all frozen . . . ask these two questions:—‘Why am I so warm when all things around me, the ground, the trees, the water, and the air, are so cold? How is it that I am moving about, running, walking, jumping, when nothing else that I can see is stirring at all, except perhaps a stay bird seeking in vain for food?’”

Now take this third quotation from another writer:—

(3) “By the principle of relativity . . . it is “denied that any psychic factor, or complex “psychosis can exist without having its definite “quality, quantity, tone of feeling, value in combination, and influence upon simultaneous or “successive factors and psychoses, determined by “the *relation* in which it stands to other factors and “psychoses, in the entire mental life . . .” Can you make head or tail of it? Or of this either?

(4) “In a similar way, in America, the shock of political thought brought about in the interior of each of the thirteen colonies, by the delegation of important prerogatives to a new - fashioned central government, rendered the criticism of that Government, of its functions, and of its rights and

duties as natural as, in other times and circumstances, was the unquestioned submission to the claims of any Government believed to be duly authorised."

Now *to some specialists* the last two quotations will be as clear as the two first, or probably clearer: the meaning and the ideas will come before the mind quite easily. *But* for the average learner the last two quotations are intolerably obscure. They have to be read three or four times, and even then the meaning may not be obvious.

Now why is this? It will be worth while to decide, because, if the reader will look back over his past, it will occur to him that one reason why he has not learnt or remembered a large proportion of what he has *read*, or heard (e.g. in Lectures), is that the language was like that of (3) and (4), and not like that of (1) and (2). Is it not so? Am I not right when I say that, had you read and listened to more language like (1) and (2)—let us say on the subject of Religion, and less language like (3) and (4), you would have learnt and remembered and used double as much as you have done?

If this is so, you see that the question is one of the greatest importance. You have realised (1) and (2), and you would like to know *why*. It will help you to understand what you read in the future, and to explain things clearly to other people (for

they—depend upon it—will feel similar difficulties), and generally to think and speak and write more definitely and effectively.

For another instance like (1) and (2), see the Preface.

You have not realised (3) and (4), and you would like to know *why*. It will help you to know what to avoid when you are thinking and speaking and writing. It will help you to learn and remember what you read.

Look once again at (1) and (2), and then at (3) and (4), and you cannot fail to see *why*. (1) and (2) are *personal*, they give you an actual *concrete* picture; (3) and (4) are impersonal, they give you no picture but more or less abstract ideas, (3) being more abstract than (4).

Let me now give a general rule for 'realising'—there will be exceptions, but, for ordinary purposes they can be disregarded. If you wish to 'realise' an idea, as a rule you must first see a *picture* of it, either a real scene, or a painting or photo or drawing, or a picture in your mind's eye, in your 'imagination'. It is not invariably the case, but it often is so, that you must see *some one 'doing' something, or something doing something*. Let 'doing' include 'seeing, hearing, touching, tasting, perceiving, thinking, speaking or writing, and acting'.

I do not for one moment assert that you should

always express yourself in this way, that you should always be describing 'some one as doing something': but, until you have got into the habit of *being able to* express yourself in this way, you can never be *sure* that you are really learning a thing and that you are likely to remember it.

I will now give some hints for improving the power of '*realising*'.

When you see anything, e.g. a street with its shops and houses, notice it with a view to reproducing the picture of it afterwards. When you try to reproduce this, at first you will probably fail; in that case you must look at the street again, and try again. Notice especially the points that you failed to notice the first time.

You can practise this, at intervals during the day, with people's faces or with anything that you see (e.g. in your room); you can practise it not only with actual things but also with paintings and photos and drawings. 'Models' are still better.

Coming to less 'concrete' things, you can try to realise Maps and Plans.

If you want to test your own picture, to see whether you *have* 'realised' or not, a good plan would be to try to draw it on paper. Afterwards you should correct your drawing, if possible.

Acting is another excellent means: go through the thing you wish to remember. Don't merely see the picture of some one doing something, but be

the 'some one' yourself, if, that is to say, the something is not a thing to be ashamed of. It is wonderful how this will improve your *sympathy*, your power of putting yourself into other people's positions.

Simple and concrete *language*, as we have just seen, is a valuable help. At first it is a most slow and tedious and difficult exercise, and it makes one doubt whether the idea *can* be expressed in this way. You generally have to go working back till you come to a picture of 'something being done by some one or by something'. And so the process really becomes that of *analysis*, of which we shall speak below. There we shall see that the series of questions 'Who did what? when? where? why? how? . . .?', maddening as they are in real life, have their value when you yourself can ask them of yourself. You can almost forgive yourself for being inquisitive when you know it is for your ultimate good!

Merely to satisfy yourself, perhaps, you will not care to go through this drudgery. Very well then, describe the thing to some one else, either by word of mouth, or by writing. In my book on Essays, etc., I suggest a stupid-looking doll as a good recipient for a description by word of mouth. It will be cheaper than an intelligent-looking doll, and will always remind you of what your future audience may be.

As to the advantages of these exercises in 'realising', I scarcely need insult the reader by mentioning them: for artists, for authors, for teachers, for learning, for remembering, for convincing, their value cannot be exaggerated.

SECTION XVI. CAREFULLY TO STUDY AND ANALYSE THE PARTS.

THE reader has now collected, selected, arranged, and emphasised, the Causes and other connexions have been worked out, then the rough outline has been made and realised; throughout he has concentrated his attention on the subject. The next thing is *to realise each individual Heading by itself*.

A good deal of what has been said in the last Section will apply here. For here again the picture-painting in the mind's eye, the searching question of 'Who does what?', will be of value.

With regard to the study of the individual parts and these searching questions in particular, Brewer's Guide and similar works suggest one useful form of question. Of course we eschew almost absolutely the question like 'Oh, dear Mamma, is it indeed true that the Emperor Vitellius was an egregious glutton?' 'Yes, my darling Harriet, it is only too true'. The little prig knows too much already! But Loisetle suggests that, if we tell one part of the question, and leave a second part to be filled in, and then *vice versa*, we are helping to sift the idea thoroughly—. Thus the fond mother might say

'The —— Vitellius was a glutton', and then 'The —— —— was a glutton', and then 'The Emperor Vitellius —— a glutton', and then 'The Emperor Vitellius was a ——'. It may have its humorous side, if done in moderation, and thus it may be a shade less dull than sheer repetition.

Loisette gives some good advice about the division of a thing into parts, and a study of it part by part. I suggest some more examples below.

The great gain of taking a thing part by part, concentrating the attention on one part at a time, and looking at that part from all sorts of different points of view, and *then* proceeding to a second part, is that this is an easier process of remembering, at least to most minds, than to pass rapidly through the whole again and again. By the latter method we are apt to master no part thoroughly, whereas, *if only we have already got a grasp of the general outline*, the careful study and analysis of parts will be interesting as well as useful for the purposes of learning and remembering.

As I have shown in an article on Practice, the Part-by-Part System is the best, at any rate for the average learner.

Another advantage is that it encourages *self-activity*: the learner is doing the work by himself. Its results will therefore probably be more lasting.

SECTION XVII. COMMON SENSE AND *A PRIORI* REASONING.

A FRIEND of mine once went in for Examination with two other men whom he knew: all three got full marks for all the questions except one. That one was not answered in the Text-book, and it was "What are the conditions necessary for the proper fusion of metals?" The two others did not try it: but my friend wrote down something like this—

1. "The metals must be absolutely free from alloy;

2. the metals must be mixed in exactly the right proportions;

3. the metals must be heated to the requisite degree;

4. the process of fusion must continue for the necessary length of time".

He had never heard the question before, but he used his common sense: reasoning on the *a priori* principle, he worked out, from what he knew already, an excellent answer to an entirely new question.

There is in this a very useful lesson, and we need not hesitate to call the answer a very clever one: for he applied the materials which he had to the

best advantage, and the cleverest cannot do more than this.

But what I wish to point out is the trouble that would be saved in learning and in trying to remember, if we would *only* use our common sense: which really means—if we would only use the materials which we already have.

To say to the would-be learner, “Don’t learn from others anything that you can possibly find out for yourself” is going to an extreme—it is refusing to take advantage of the accumulated experience and knowledge of all past ages. Moreover, life is too short for this rule to be applied universally. But within certain limits it is excellent: it is especially excellent if you have the time.

‘But’, you will say, ‘it is all very well to talk about “materials which I already possess”—kindly tell me what they are’.

In the two following Sections I will point out some of them, and you will admit (when you add those which are suggested elsewhere in this book) that you already possess a splendid store—enough for most things that you are ever likely to want to learn and remember.

SECTION XVIII. COMPARISONS.

IF the reader refers to Section X., he will see that I was trying to impress upon him, to make him learn and remember, the value of complete lists. Perhaps it had never occurred to him that there were such things: perhaps, even if it had, it had never occurred to him that they might be valuable. So I had to start with something that he knew already. 'What is my reader likely to know already?' I asked myself, 'what, that is to say, that can be *compared with* these complete lists of the causes of Success'. Well, he knows that, if he wants 10 names of friends to form some club, and if he has a complete list of all his friends, then he can easily *pick out* the 10 he wants: he can easily discard the others'. So I might have used this as a starting-point, and, when he agreed with me, I might have shown that the complete list of the Causes of Nations' Successes would be a parallel instance.

Here, then, I might have started with something which was more familiar to him, better known, and therefore more easily learnt and remembered. Thence I might have proceeded to what I really wanted him to understand, and I should have been almost sure that he would have understood it.

'Italy and the leg' gives us another instance. Let us suppose that the reader does not know the shape of Italy, but *does* know the shape of a leg. He must really know it, however prudish he may be. Therefore I start with the leg and thence proceed to Italy. I proceed from the well known or familiar to the more or less unknown or unfamiliar, from the easy and simple to the more difficult and complicated.

A question which must interest us all is 'What is the exact connexion between Great Britain and her Colonies? How close are the bonds of union, or how loose?' Try to think it out, and—unless you have tried before—you will not find it an easy matter to answer the question all of a sudden. Even if you have read Burke or Froude, you may not remember much. *Therefore* find a comparison: find some bonds of union that you *do* understand and know; for instance, 'What holds together your family, your School, your College, your University, your Club, or any other of your "groups"?'

Of the family's bonds of union you will at once mention 'Blood and the knowledge of it, family-traditions, likeness of appearance, interests in common, little family-sayings, the home and its furniture and its associations, kindness, the management by the father and mother, and — perhaps — a little rivalry with some other family'.

Now apply this, *mutatis mutandis*, to the bonds of union between Great Britain and her Colonies.

Let me point out one or two *advantages* of these comparisons: for others, see p. 284 foll., in the Essay-Book of which I have spoken.

(1) They are good for recalling things which you know already but cannot easily recall otherwise;

(2) they help you to realise and to learn new subjects;

(3) they suggest fresh ideas which a study of the subject itself (see above) might not suggest;

(4) they are a great help for teachers and for all speakers and writers: the question will be 'What do my hearers or readers understand already—what that is like this new idea which I wish to impress upon them? What comparison will at once attract their attention and interest and be easily understood?'

(5) this encourages teachers to observe and examine the minds of learners—hence an increased sympathy;

(6) they give us a use for the rich treasures in our minds—for the materials which might otherwise be useless;

(7) they improve our powers of learning and remembering and reasoning generally;

(8) they will encourage us to *observe*: for *anything* that is around us or within us may prove valuable as a comparison. The study of Nature, especially, becomes still more essential than it has been before;

(9) they will save a great deal of trouble and inconvenience—they will save the separate learning and remembering of various things, which will now be grouped together. Learn how the seed grows, and learn *how to compare*, and then you need not learn separately, and as if it were an entirely new subject, how every other thing grows—for instance, how *you* grow. Much labour will be saved: you will kill two or three or many birds with one stone.

(10) Contrasts are scarcely, if at all, less valuable than comparisons: but of them I shall speak in the following Section. Both derive part of their value from the fact that they are '*Repetitions in disguise*'. For the truth of this, see XLII., where I quote a passage from the New Testament.

The same comparisons and contrasts will not always suit every one: there are, it is true, some which practically every one can understand (such as fire, cold, anger, walking, houses, etc.); some which the majority can understand (such as games); some which specialists alone can properly understand, and some which perhaps no one else but yourself can properly understand.

An extreme instance, a one-sided exaggerated case, will often give the very best starting-point. Buckle was fond of beginning with such an instance. It brings one thing, or one aspect of a thing, so *clearly and strikingly* before the attention. Hence the effect of Proverbs and Epigrams (XXXIII.).

For Practice-exercises I refer to the Essay-Book (p. 288 foll.); I quote two of them here:

(a) Take a subject somewhat difficult to explain, and ask yourself: 'What easier subject will be a good starting-point? What easier subject is something like this?' Find easier subjects which are analogous to the harder subjects.

(b) Take an easy subject (e.g. building a house), and ask yourself: 'For what more difficult subject will this be a good starting-point?'

SECTION XIX. CONTRASTS.

It has been well said that we should never properly know what 'sweetness' was if everything were always quite sweet; that we should never properly appreciate the 'blackness' of some things unless some other things were 'white'; that none but he who has worked can have the full idea of 'rest', that 'calmness' would cease to be 'calmness' if the sea were never rough.

In fact, nothing can be completely realised without 'contrast', and the impressiveness of Jesus' words (see Section XLII.) was partly due to his use of this great means of enlightening and of impressing.

Add to this that contrasted ideas are often easier to realise, to learn, and to remember, than the ideas themselves can be. Thus some people cannot realise what a feeling of 'honour' means, until you tell them that it is, e.g. a shrinking from disgrace.

I said above that, when I had wanted you to understand and to remember the value of complete lists, I might have used some comparisons: I might also have used some contrasts. I might have asked you to contrast the condition of two guests who arrive at a strange country-house just before dinner.

One has in his bag a (practically) complete set of things he might want: from these he easily selects *all* that he wants and discards the rest. The other has in his bag just what he had thought he might want: he had not taken any trouble to work out the possible requirements carefully, and now he finds that, though his bag has certainly been light to carry, yet it does not contain his dress-shoes or his dress-tie, or his pyjamas!

The man who has a complete list of Headings is like the first guest: the man who has no such list but trusts to chance is like the second guest.

For other illustrations of contrast I refer to p. 291 foll. of the Essay-Book, and to the passage from the New Testament, in XLII.

Contrasts have very much the same advantages as comparisons: if the reader will turn back to Section XVIII., and take what I have said there and apply it (*mutatis mutandis*) to contrasts, he will find that their functions are not dissimilar. Both of them are good for recalling old subjects, for realising, learning, and remembering new subjects, for suggesting fresh ideas, for teaching, speaking, and writing, for improving our knowledge of human nature, for giving us a use for the materials that we already possess, for saving the trouble of learning each thing separately (since they will group the different subjects together): both of them are good

because they are repetition without the drudgery of repetition.

The Practice-exercises in finding and working out contrasts will correspond to the exercises on comparisons.

SECTION XX. TO TEACH OTHERS.

THERE is a general consensus of opinion that by no means can you ever learn and remember a thing so well as by explaining it to others: that, *until* you have succeeded in making others understand it (and, the more stupid they are, the better the test), you can never be *quite* sure that you really understand it yourself.

Apart from any great and obvious advantage which may come to yourself if you try to teach, in teaching you are following the natural tendency to impart information, whether the desire be to 'show off' or to help others.

But why should teaching help us to learn?

One reason is that there will be a certain responsibility for the teacher; for now he has to satisfy not himself alone—alas! often a far too easy task—but others as well. He is (or should be) put upon his mettle.

Therefore it will be necessary for him to have his ideas clear and to express them in clear language—i.e. in language clear to the learners.

The learners need not be *real* learners: as I said above, there may be an imaginary audience or

imaginary readers: for teaching is not done by word of mouth alone.

Teaching in its wider sense will here include not merely home- and School- and University-teaching, but also Lectures, debates, conversations, essays, articles, and letters: all these can be means of imparting information. In all these we may be wishing our 'public' to learn and remember something.

Let me give a single example, which will be very much to the point. Have you learnt and remembered what are the various 'Memory-Systems' (illustrated in Section V.)? You are not quite sure? Then try to explain them to some one else, and you will very soon find out.

The fact of it is that in life most of us soak in too much 'information' and let out too little: we as it were eat and drink our mental food, but do not turn it into active energy. There is a wealth of force and of material unapplied. Just as we breathe in and breathe out alternately, and just as Nature herself constantly exhibits this alternation of receiving and giving, of absorbing and emitting, so should our minds alternately receive and give.

Try to do as I suggest, and see what you fail to remember: in a note-book make notes of these failures, and correct them, and then try again.

SECTION XXI. REPETITION, AND THE RÉSUMÉE.

REPETITION is the last of the helps which I shall offer, apart from Memory-Systems. It is perhaps the commonest way of learning things with a view to remembering them: in its barest and least scientific form it is most assuredly the duller and the least profitable.

When you want to hammer a nail firmly into a wall, you hit it again and again: at first, by the way, you hit softly and slowly and carefully:

When you are knocking a hole in anything, you also repeat the blows: this makes the hole deeper and deeper.

It is a common fault to 'repeat' the sight of words or the sound of words before grasping the real meaning of the words—i.e. *before 'realising' the ideas*. This is the worst mistake. It will include reading or looking at words, copying them out, or saying them to one's self or out loud. Masses and masses of words are 'learnt' in England and elsewhere by persons who degrade themselves to the level of Photographic-cameras, of Printing-machines, or of Phonographs. It is sheer sacrilege—nothing less.

First of all, you must collect and select and arrange and emphasise your Headings; then—concentrating your attention throughout—you must find causes and other connexions (if there are any); you must realise the general outline, you must carefully study and analyse each part, and you must compel your common sense, your comparisons, and your contrasts, to relieve you of the burden of learning, as far as you possibly can. These two latter will also be, in themselves, forms of repetition, and, if you can teach and explain to others, that will be another form of it.

And now comes the task of repetition itself. Let me try to make it as easy as I can, in the short space at my command, referring for details to Chapter XLIX. of my work on Essays, etc.

You have many different ways of impressing a thing on the mind and the memory, or we might say that you have some different kinds of memories.

(1) The power of learning and remembering by the *eye* you can use

(a) by seeing the thing itself,

(b) by seeing a picture or photo or drawing of the thing,

(c) by seeing a mental picture of the thing,

(d) —in some cases—by acting a part, when the body may also help;

(e) by seeing the *word or words* written down, or printed, with or without differences of type, etc.;

(*f*) the hand will help the eye if, for example, you paint or draw the thing, or write down the word or words.

There are many who remember by (*f*) better than by (*e*), and by (*e*) better than by (*c*). Do not always use your strongest power, but sometimes practise your weaker powers.

(2) To many, learning and remembering by the *ear* are—by nature or by training—more serviceable than by the eye. You can use this power

(*a*) by listening to the words actually spoken, and thence getting the idea into your mind ;

(*b*) by saying the words out loud ;

(*c*) by imagining some one to be saying the words*, or by saying them ‘out loud to one’s self’ ;

(*d*)—in some cases—by acting the idea as well ;

(*e*) by listening to a reproduction of the words, e.g. by a Phonograph.

(3) While learning and remembering by the ‘*reason*’ (in rather a wide sense of the word), you need not be *conscious* of using the eye or the ear at all ; the picture or the written words or the spoken words are thrown into the background : one might almost say ‘thrown away and forgotten’, but this would not be correct. Anyhow, only the idea itself, perhaps with causes and effects, etc., may seem to

* Cp. the effect of saying to one’s self ‘Again *I seem to hear* the quiet rippling plash of the waves on the sands that white-hot mid-day in July’.

be the *impression* left on your mind by what you have seen or heard or thought.

According to your individual powers (e.g. the power to draw), according to your subject, according to your conditions (such as the presence of pencil and paper), so you must decide which means to adopt.

I will suppose that you have grasped the general outline (if there *is* one), and that you have more or less understood each part, and that you will now continue to concentrate your attention, not allowing it to be distracted, if you can possibly help it.

Take the first Heading by itself, realise the idea (Section XV.), by forming a picture of it in your mind's eye (if you can).

Conquer this Heading thoroughly, either by attacking it from two or more sides, or by attacking the same spot again and again; either by bringing two or more *powers* to bear upon it one after the other or together, or by bringing a single power to bear upon it again and again.

Proceed slowly, carefully, and with concentrated attention: repeat the Heading (the sight of the 'picture', or of its written or printed word or words, of the sound of its spoken word or words, or the 'idea' of it, or first one and then another), until you have the Heading safe and sound.

When you have grasped the first Heading, proceed to the second; but gather up the first once again before you begin the second. Then conquer

the second Heading as you have already conquered the first. Before attacking the third, gather up the first and second once more. And so on.

You must be again and again making *Résumées*. Repetition by constantly increasing *Résumées* is perhaps the soundest plan of all.

After a short interval, *reproduce* the whole list; notice your mistakes (if there are any); *correct* them; say or write the list once more; then, after another short interval, again reproduce. After each reproduction and correction, *strengthen* your grip of those Headings which it holds least securely.

Where this differs essentially from the commonest method of repetition is that it conquers the whole not as a whole, all taken together, but

(a) *part by part*, attention being concentrated on each part in turn till it has been mastered *per se*;

(b) each time *making certain of the old ground*, going over it before adding what is new;

(c) at intervals *reproducing*, *correcting*, and *strengthening* the weak points.

Diagram V. will show how strongly the first Headings will become impressed upon the mind: the last Headings may be strength-

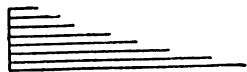


Diagram V.

ened by the reverse process, i.e. by beginning at the end and *going backwards*—a method not always good, but often very good indeed.

In the learning of Prose or Poetry (see XXXVIII.) this *Résumé* is of very great value: it often means a previous analysis and study of the various parts. Thus 'Magnanimity in politics is not seldom the truest wisdom' might be learnt thus:—

- 'Magnanimity is wisdom',
- 'Magnanimity in politics is wisdom',
- 'Magnanimity in politics is not seldom wisdom',
- 'Magnanimity in politics is not seldom the truest wisdom'.

With the simple we begin, and to the simple we add by slow degrees.

To draw pictures of an idea, to describe it in writing (in as many ways as possible, which will be good practice in paraphrasing), to write it again and again, to say it again and again, to explain it to others (a real or imaginary audience), to discuss it with others, to ask questions about it (see above), to think about it, to compare it and contrast it with other ideas—all these can be regarded as forms of repetition. But with one and all of them there should be no hurry; with all of them there should be concentrated attention and realising.

But do not imagine that this means a tight gripping of the hands and a set 'bicycle-race' expression of face. The best kind of concentrated attention is where the body is allowing no such nerve-energy, or magnetism, or whatever we call it, to pass through its various outlets.

NOTE.

Mr. Henry Wood, of Boston, Mass., in his "Ideal Suggestion through Mental Photography" (Lee and Shepard), applies the great power of the Eye-Memory to a very practical purpose. He gives careful directions on p. 108. Pleasant and healthy ideas, for example, are printed clearly on pieces of paper; the ideas are understood and realised first (see Chap. XV.), and then, while the person is relaxed and silent, the mind's eye is riveted on the words, e.g.

PAIN IS FRIENDLY,

for many minutes a day, until these words become indelibly printed upon the mind's eye. Then the piece of paper becomes unnecessary. His interesting book should be read, along with J. Hudson's "Law of Psychic Phenomena" (Putnam's), which explains the *raison d'être*. It seems to me that this method should be reinforced by various Paraphrases (Chap. XV. p. 94 foll.), and by the *Résumée* (Chap. XXI.): i.e. former sentences should be repeated before the new sentences are acquired. Moreover, some should employ the **Ear-Memory** (i.e. the words should be said out loud, actually or mentally, or by a *Phonograph*). Others, again, should employ the **Picture-forming Memory** or **Imagination**: for instance, Pain could be personified as a friend. But the suggestions will be invaluable to those who already have (or will develop) the **Eye-Memory** for *words*. For thousands of people words are, at present, words rather than ideas.

PART IV

MEMORY-SYSTEMS IN DETAIL, WITH FURTHER EXAMPLES.

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So far, we have used no means which the grossest pedant or pedagogue would not allow: and the means which we have used will have been quite enough to enable us to learn *some subjects* well, if not to remember them accurately. And *with these subjects the above means, or the greater part of them, should be used before any Memory-System is applied.*

But, with a mere list of names or words which have no real connexion with one another, there are not many of the above means which would be serviceable.

SECTION XXII. TO OBSERVE USEFUL POINTS.

I SAID, above, that the early Ending of the Dative Case was *-ai*, i.e. the first two Vowels of the word *dAtIve*. It is a mere coincidence, but to observe such coincidences does undoubtedly help the memory. And, if we only get into the *habit* of observing, we shall find that such little helps abound everywhere.

Loisette (p. 33) gives an extraordinarily good instance of the value of observing useful points, in the case of the Kings and Queens of England. I alter his remarks slightly here.

(1) There are 4 independent Queens, viz. Mary (Tudor), Elizabeth, Anne, and Victoria.

(2) The first William began the list, the last William came just before the last Queen;

(3) Mary, the first Queen, was followed by Elizabeth, and she by the first James.

(4) Anne was followed by the first George.

(5) Anne, the third Queen, herself followed the third William;

(6) William I. and II., Edward I., II., and III., George I., II., III., and IV., Henry IV., V., VI., are to be noticed.

(7) James I.

Charles II.

Charles I.

James II.

See further Loisette's book itself.

In learning Foreign Languages, such connexions as *plume* and *pen* (cp. feather quill-pen), *arbre* and *tree* (cp. arbour), *canif* and *knife*, must have occurred to every one. By extending this principle we have such helps as *jamais*—‘jam, eh?’—never! See Barte’s ‘Memory’.

I need not multiply examples: for numbers and dates (see Section XXXVI.), the amount of trouble that can be saved in this way is enormous.

SECTION XXIII. TO LINK (THE LOISETTE SYSTEM).

WHAT ideas come into your mind when you think of an unripe gooseberry? Just reflect for a moment, and write them all down—is it not a hard, green, round, sour, small thing, which makes you ‘scrugle’ all down your back, and suggests ‘sugar please’? It may also suggest gooseberry tart or gooseberry fool.

Now here are ideas that cluster round that little lump, and why should you not use them? The ideas are *tied* to the thing tightly. *Everything* has a certain number of ideas tied to it; what these ideas actually *are*, will depend on the individual.

Suppose you want to remember two things together, which we will call 1 and 2.

1 might be ‘Berry’ and 2 might be ‘School’. Mr. Berry might keep a good school somewhere.

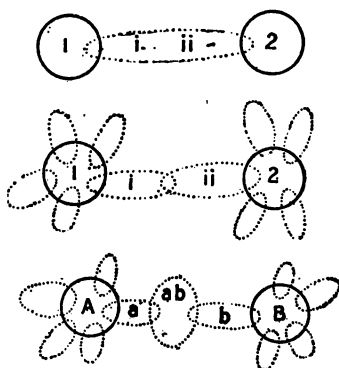


Diagram VI.

At present they are unconnected, and perhaps you connect them together in your mind by repeating them again and again: or else you ought to connect them together, but don't take the trouble.

Now let us apply the Loiset system: 1 (Berry) suggests i. ('Gooseberry'), and 2 (School) suggests ii. ('Scrugle'), and i. ('Gooseberry') or at least i. ('Unripe Gooseberry') suggests ii. ('Scrugle'). So we have connected or linked or tied together two things which before were not connected together: the 'chain' will be

1 (Berry), i. (Gooseberry), ii. (Scrugle), 2 (School), and, backwards,

2 (School), ii. (Scrugle), i. (Gooseberry), 1 (Berry). If you want to think of what Berry is, you will now be able to pass (quicker and quicker with practice) through Gooseberry and Scrugle, to School: or *vice versa*.

To change the comparison, you have now put stepping-stones across the river, and 1 and 2 no longer require a violent jump to be made. The crossing will become easier each time you try it. And, besides this, after a time you will be able to pass from 1 to 2 without being conscious of going over i. and ii.

Sometimes one stepping-stone is enough (as above, from *jamais* through 'jam eh?' to *never*), sometimes two are better, sometimes even three.

More than three links or stepping-stones are never necessary, more than two very seldom.

As you try the System at first, you must imagine the word or idea A groping about so as to find some 'association' to bring it nearer to B, and you must imagine B groping similarly. After a time A and B will very quickly be able to find a mutual friend to introduce them.

But, you will say, surely this is very *unnatural*: we haven't got these groups of ideas in our minds, have we? Let me convince you that we *have*, and then, instead of calling the system 'unnatural', you will only call it 'hitherto unknown to you'—which is a very different matter!

Take the two words *asparagus* and *sparrow-grass*: what is the connexion between them? 'None', you will indignantly answer, 'at least none worth mentioning—this is only a wretched sort of pun'. Let me submit to you one or two considerations, to show you that even in *your* mind, whether you are conscious of it or not, these two words *are* members of the same group, and are bound together by very close ties.

(1) They *sound* alike: you admit that by admitting that there was a sort of pun—and the rhythm of the two words is somewhat alike;

(2) in appearance the words have a connexion, for both *asparagus* and *sparrow-grass* contain *spar-g-s*;

(3) the things themselves *look* something alike, for they are both green herbs ;

(4) one characteristic is common to asparagus and grass : both *can* be eaten ;

(5) the two are *associated* together in the minds of many uneducated people, who sometimes call 'asparagus' 'sparrow-grass' or even 'grass'.

The fact of it is that 'asparagus' is a *strange word* to those people, whereas 'sparrow' and 'grass' are both familiar words.

The connexion is therefore that of the sound of the words, of the appearance of the words (for the two do not always go together), of the appearance of the things, of a characteristic of the things, and of association in the mind (at least in the minds of many uneducated people).

If you look at the examples in Section V., you will see that the connexions between various words are seldom so numerous as those between these two words : often the connexion is merely or mainly one of sound (cp. *ten*, *den*), or of 'association' (cp. 'Ding-dong-dell' and 'Pussy'). The great point, however, when you wish to connect any two words, is that the connexion should be a strong one *for you individually*.

Let me mention some types of connexions.

(A) *Sound of words*.—Two words may be like one another *to some extent* : their general rhythm may be the same, or any one *syllable* of the one

may be like any one syllable of the other: e.g. 'untamed' and 'nameless', 'attention' (when pronounced 'ten-*shun*') and 'shunting', 'taboo' and 'tabby cat', etc. Puns and riddles suggest hundreds of examples.

Notice words carefully as you pronounce them (for instance, Northern, tuberculosis, flabbergast, disinterested), and you will see that the beginning is important (often the first letter alone is quite enough to recall the whole word), the ending is important (as Rhymes can prove), and the accented syllables are important. In Novels and all kinds of Compositions, the beginnings and endings are important.

In finding a sound-connexion one has to ask 'What does this word sound like?' With unfamiliar words (e.g. technical terms, foreign words, names of people or places) one has to ask 'What familiar word or words does this unfamiliar word sound like?' 'Hypotenuse' sounds like 'high pot in use'.

(B) *Appearance* of the things or of the words. It was because of its appearance that the mechanical 'crane' was called a 'crane'. The word CRANE looks like GRAVE. Here, again, any part of one word may look like any part of the other word, or the whole words may look rather like one another. It is often a good help to mark the similar parts by underlining, or thick type, or capitals.

(C) *Characteristics, and meaning of words.*

The word 'wealth' suggests a whole host of other words, e.g.

translations (πλοῦτος, divitiae, richesse, etc.),

synonyms (riches),

part of the whole (gold), which is also

a sign of wealth, and is also

concrete as opposed to abstract (cp. also 'wealth'

and 'a wealthy man'),

effect (? luxury, ? happiness),

cause (industry, dishonesty).

(D) *Contrasts*, e.g. poverty.

(E) *Associations*, e.g. the crisp paper of a £5 Bank-Note. Good instances of association could be got from Advertisements (e.g. a spade and Branson's Coffee-Extract).

It is these associations that each individual has in such abundance: some of them, as that between Smith and a lamp-post, may be that simply due to a casual connexion at a certain place and at a certain time (Smith was once seen walking by a lamp-post).

Materials for these connexions are furnished so lavishly by our daily life, by all that we see or read or hear or think or do, that there are no two words which cannot be linked together very easily and—after a little experience—very quickly.

Only be sure that, *before* you begin making or using the links, you first *realise* the idea.

The list of Headings being realised and being now

connected and formed into a single chain by links, proceed to master the links between 1 and 2, both forwards and backwards, then those between 2 and 3, and so on. When the whole chain has thus been mastered by the *Résumée-System* (above), *then* take it backwards as well.

Try to reproduce it after a short interval (e.g. during a walk); notice where you fail, and strengthen the weak links. It is important not to let the interval be too long. Repetitions at short intervals are usually better than at long intervals.

A few Notes may be helpful.

(1) The best links are usually those which are links of sound and sense as well (e.g. asparagus and sparrow-grass). Words which are connected etymologically, like reason and *raison*, are invaluable because of this. Humorous links are often valuable because they are unusual and arrest the attention.

(2) Sound-links (as between 'dough' and 'foe') are usually stronger than mere appearance-links (as between 'dough' and 'rough').

(3) Long words obviously give a better chance for connexions than short words do.

(4) Too many links (even three or four) are better than too few (e.g. one rather obscure link).

(5) *Double links* may be used in the most important lists of words, wherever your chain is weakest. It is the old saying of 'two strings to

your bow'. Remember that the strength of a chain is the strength of its *weakest* link.

(6) Links I always consider to be best in combination with Initialising (XXVII.), or with Rhymes (XXX.), as in Section V.

(7) Avoid using the same word in many chains: if you do use it thus, you will be liable to take the wrong turning when you come to the 'cross-roads'.

(8) Make up your own *exercises* for yourself, and practise them at odd moments.

Study Advertisements very carefully as you walk along in the street, or as you sit in a carriage or train, etc. Try to find out *why* on earth and *how* on earth it is that certain pictures can manage to be Advertisements for certain goods. The pictures are striking, but what is their real and vital connexion with the goods?

Frequently they have no such connexion at all! And yet they help you to remember the goods. Why and how? Because they are linked to the goods—by more or less casual and inadequate links you might say, but still the links hold firm.

Far the best test of every chain

Will be its power to bear the strain.

There is the picture of a jester at a New York station: what has he to do with Ayer's Pills? The link is given by the words put into his mouth, 'Tis no merry jest, Ayer's Pills are the best'.

He who has seen this picture will probably think

of Ayer's Pills whenever he sees the picture or a similar picture, and perhaps often when he only sees similar colours, yellow and red and green. The link has been established.

This might serve as an example also of the Localising-System, which will be explained in the following Section.

SECTION XXIV. TO LOCALISE (THE ROOM-SYSTEM).

THIS is one of the oldest 'Systems', and many have found it very valuable. I give here a plan of my own room, which is not worth studying closely; the point to notice is that

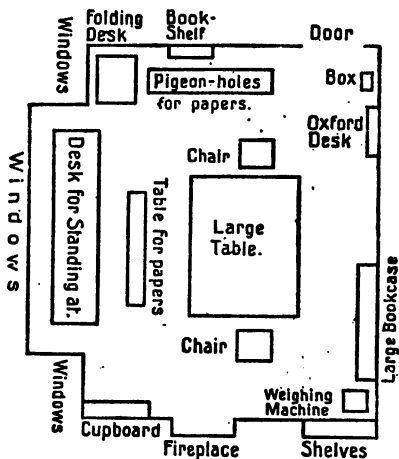


Diagram VII.

it contains, apart from its four corners, about 20 places or things which I know very well by sight. If I shut my eyes, I can call up the picture of that room.

Now, just as I try to find a proper place for each paper, etc., in the room, so that when I want it I know exactly where to lay my hand, in the same way on each place or thing in the room I can put an idea or Heading. Suppose I have 12 Headings that I want to remember, say the signs of the Zodiac: then the Crab I imagine to be placed in the box, the Twins on the two chairs, and so on. I associate the pairs together, and when I want to get all the 12 Headings I have only to think of the 12 parts of the room.

The different rooms in a familiar house, the different features in a familiar piece of scenery, the different parts of the body, and so on, can all be utilised thus—they can have Headings tied on to them.

Stokes' Mnemonical Globe is a map of the World, and across the Europe-Asia-Africa Hemisphere is a great *face*. The forehead, eyes, nose, mouth, chin, and ears, are all easy to 'place' in your imagination: on each of these firmly fixed pegs you can hang some part of the land.

For other applications, I refer the reader to 'Stokes on Memory'.

SECTION XXV. TO CONNECT WITH THINGS
THAT ARE EASIER TO
REMEMBER (THE PEG-
OR ANCHOR-SYSTEM).

LET us once again consider the rationale of the Localising-System.

People hang things on a nail or a screw, they tether an animal to a peg, they secure a ship by means of an anchor. The general idea is to have something firmly fixed, which we can use in order to hold fast and sure something else, which otherwise we might scarcely be able to hold at all, and still less be able to seize upon at a moment's notice.

And so it is with our minds: here also we often need something firmly fixed, *something that we are sure to remember whenever we want it*, something by means of which we may secure what otherwise we might lose or might not be able to find just when we wanted it.

We want to remember to take a parcel with us when we go out, we want to remember two names, we want to remember a Map: all three things we may *know*, in the sense of being able to recognise them when they are pointed out to us. But, when

we want to recall them, we find ourselves groping about in our mind—we search and search, but we cannot find, because the things are ‘running about loose all over the place’—they are unattached to any definite fixed *peg*.

What we require, therefore, is a peg, a something which shall be

(a) easier to remember than the parcel, or the two names, or the Map, and at the same time

(b) sure to be seen or found the moment that we want it.

The parcel we perhaps put in our hat, for our hat we shall have to put on before we go out; the two names we perhaps *link* (XXIII.) to something which we shall have to see in the course of the day, e.g. the clock; for the Map of Italy we think of a booted foot going to the left: that will be enough to recall the required ideas.

Now ‘Localising’ (above) may be said to include the first two, but not the third. This third instance shows us that, if we want to remember a hard thing, we must often begin by remembering something which is more or less *like it*, but which we know already (or at any rate can learn quite easily). It is especially useful for Maps and Plans and drawings, and below I shall give a list of those which we know already or can learn quite easily.

Look at this Map of part of Greece, for example: rough as it is, it is hard to get it so vividly fixed in

your mind so that you can draw it at a moment's notice.



Diagram VIII.

Now hold your left hand before you, with the fingers pointing downwards, and with the palm facing you. Draw this, somewhat as it is in Diagram IX., and you will have *something like* this Map as a starting-point: you will always

carry it about with you quite ready for use.

There is inaccuracy here, it is true: but you *must* get a general impression firmly fixed in your mind

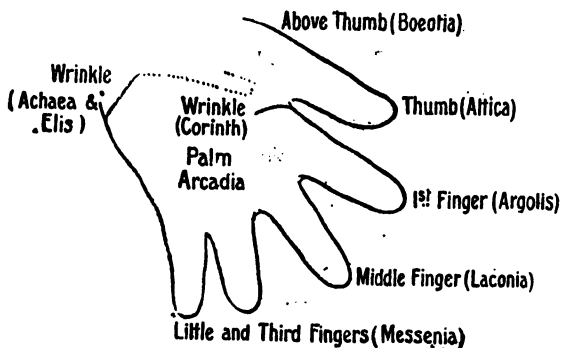


Diagram IX.

before you think of accuracy of detail. *Afterwards* you can take the Map part by part (see XVI.), and make the needed corrections.

The word BACALMA would give you Boeotia, Attica, Corinth, Argolis, Laconia, Messenia, Arcadia : this would be Initialising (see XXVII.).

The system of starting with what is easier to remember has already been applied to numbers, and will be applied again in Sections XXVI. and XXXVI. Thus—to alter the figures somewhat—it is far easier to remember the somewhat inaccurate dates 510, 390, 260, 130, than the more accurate 509, 390, 266, 133.

Here, instead of learning the whole thing at once, you only learn a part of it. For the outline *is* a part of the whole, and a very important part too.

You want to teach a child to draw a pig, for example an inquisitive pig? Does it not become easier if you begin thus, that is to say, if we assume that the child has *no* idea of drawing? I believe that the idea is Alma Tadema's.

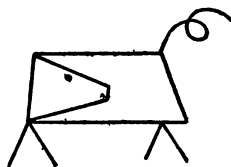


Diagram X.

You cannot remember which should be 'practise' and which should be 'practice'? But 'advise' (Verb) and 'advice' (Noun) are easier : so start with them. For spelling, this is a useful help.

Of the many things of which the *sounds* are familiar to you, and which therefore will form good starting-points, I may mention names of people (e.g.

Christian and sur-names), of the months, of the days, of places, and so on.

These will serve as *prompters*: but for details I must refer to XXXV. and XXXVII., where I apply the System to drawings, and to engagements, etc.

We have to be constantly on the look-out for these prompters or stimuli, 'exciting causes': for, to change the comparison, we have the little bits of iron *somewhere*, and all that we need is the magnet to collect them with.

SECTION XXVI. TO SUBSTITUTE (A SYSTEM ESPECIALLY USEFUL FOR NUMBERS).

THERE are many who find it very difficult to remember numbers. If the exact number is not of great importance, the task is easier: but if, as in the case of a number of a house, or of a street in New York, the exact number is of importance, then it becomes almost a necessity for the above-mentioned people to have some 'System'.

One such System has been mentioned already: Loissette's is similar, and I give his here, referring to his admirable little book for further examples.

Each *number* has two or three consonants corresponding to it. Loissette's Table is

<i>Number</i>	<i>Consonant</i>	<i>Ways of remembering</i> (some are my own)
0	S, Z (and soft C)	'SeiZe nought'
1	T, D, TH	'One-Too TH eD'
2	N	<i>n</i> has two strokes
3	M	<i>m</i> has three strokes
4	R	last letter of Fou R , or the word Arthur (R 4)
5	L	L the Roman letter for 50, or the word <i>file</i>

<i>Number</i>	<i>Consonant</i>	<i>Ways of remembering (some are my own)</i>
6	SH, J, CH, G (soft)	Six SHy Jewesses CHOSE GEORGE (Loisette)
7	G (hard), K, C (or Q), NG	Seven Great Kings Came QUarrelliNG
8	F, V	Eight FaVours
9	P, B	P is like 9 turned round.

There are no vowels here; when you have got the letters for any given number, then you can fill in vowels so as to make up a word or words. Thus Loisette gives Charles Darwin's date by the words **SP**ecies (S = 0, P = 9, Date 1809). Notice several points here—

(i) There is no need to put the 18—: you reject as much as possible (XI.);

(ii) the first two letters alone count;

(iii) the word itself is intimately associated with Darwin, because of his 'Origin of Species'.

(iv) A fourth point is to be noticed. To *you* this word **SP**ecies meant nothing: you had to refer to the Table, to see what S and P represented. Before you can find the System really useful, you must *give up a good deal of time to mastering the numbers and letters*, and to practising them. Any odd moments may be employed in this way.

(v) Where no connexion exists between the word

and the number-word, then you had better 'link' the two together: thus, 'Waterloo', (18)15, might be 'teal': hence "Waterloo—water—fish—teal".

And see further XXXVI.

In the next Section we shall see that 'Substitution' will help 'Initialising' a great deal.

SECTION XXVII. TO INITIALISE, OR TO PUT THE
PART FOR THE WHOLE
(THE CABAL-SYSTEM).

ON the very same day that I write this I receive a notice from the Cecil Hotel, showing people how to wire for rooms, etc., by a Special Code: *Rosebud* 15 would be an instance. The vowels do not count, and R means Reserve, S Sitting-room, B Bedroom, D Dressing-room, 15 on the 15th. Here, then, is a great saving in telegrams (at least from abroad).

I see that, in the Code, T = morning, Y = evening. This would be an example of Substitution (or Representation): vide the previous Section.

The word CABAL gave the initials of the five Ministers, RYGBU (or, reversed, UBGYR) gave those of the chief colours; H.R.H., W.G., *e.g.*, *i.e.*, *etc.*, are other well-known instances. Cp. also 'P and O' steamers.

When we come to examine *why* this is so, why we can so easily remember things by their initials, we see that it is because the initial is so *prominent* a *part* of the word. It is the first thing that meets the eye, it is like the first words of a book: it catches the attention.

And, when we come to look about for other

examples, we see that this way of remembering words or things or persons or ideas by means of a prominent part is not only very common, but also *almost inevitable*. You say you know Jones by sight: but you really know little more than the *front-view*, or possibly the profile as well. You do not know Jones *thoroughly* by sight: for all intents and purposes, however, you know *enough*—you know enough to remember him by and to recognise him by.

Now, why on earth should not this principle be extended? You have a list, let us say, of 12 things to be remembered, of 12 persons to be seen. You have discarded—for economy's sake—all the names that you are not in the least likely to forget, or all the names that are unimportant; but still you have twelve. You know them all, you have 'realised' (see XV.) all the things or people, and you could recall them all directly, if only you could be told their *first letters*. Very well then, take those first letters and make them up into a word or into two or more words. Then hang these new words on some peg (see XXV.), on something which you are sure to remember, e.g. on the words 'call on'. The new words need not be real words—a fancy word may be actually easier to remember.

If possible, your new words should be somehow connected with the general idea of the list, just as Rome, the centre of Italy, might be associated with AS GEM CREATING FOCUS (Section V.).

If you cannot form a word or words, then form a *sentence*, of which the words have the same initials. Vide id. This, however, seems to me to be a cumbrous method.

If, in addition, you can link the words together, or form them into some sort of a Rhyme, so much the better—as long as the subject is important enough to demand this care. But anyhow it would be good practice.

I will offer a few instances and hints, for at first the task will often seem impossible.

In my book on food,* I thought it would be as well to impress upon people those things which I considered it safer to *avoid*. I determined to initialise these things, and to form the initials into words.

(1) Obviously *the ideal words* would have been TO BE AVOIDED or something of the sort.

(2) I proceeded to write down the various words *underneath one another*; those that began with consonants were in one column, those that began with vowels were in another.

(3) I wrote down alternatives, wherever I could: thus Smoking or Tobacco (or even Cigars, Cigarettes, or Pipes) would appear as

Smoking

Tobacco

Cigars and Cigarettes

Pipes.

* 'Muscle, Brain, and Diet.'

(4) Then I tried to find words that would give the sense of something to be avoided. Eventually, after I had

(5) tried very many combinations, I arrived at the following list.

N.B.—It is needless to say that it is only a rough-and-ready list, and, while it may be too sweeping in some directions, is certainly incomplete in others.

Alcohol (wines, spirits, beers, etc.)

Smoking

Drugs

Eggs

Flesh, Fish, and Fowl

Extracts of Flesh

Coffee and Cocoa

Tea

Sauces and Savouries (and Irritants).

It is of the greatest importance to know a number of *alternative words*, to be substituted (see XXVI.) for the awkward customers. As an exercise, refer back to any of the lists given above, and try to find alternatives for each Heading.

You might get results like the following :—

Character—virtues

Romanising—assimilating—leavening—extending—

Isolating—*divide et impera*—separating—

Senate—government—aristocracy—council

Position—geography

Luck—fortune—

Unity—harmony—cohesion and co-operation.

Needless to say, such an exercise will greatly improve your control of language, both in speech and in writing. They will also encourage you in learning the vocabularies of Foreign Languages (e.g. *divide et impera*), which, as we have seen, are of value also as link-words.

Link-words themselves can be substituted for the original words in a few cases. Thus for 'Alcohol' might be substituted 'Incoherent', *provided that* the two words were closely associated together in *your* mind.

You take the first letter of each word, then, and write down these letters (or the whole words) in a line, with alternatives (synonyms, translations, etc.). As alternatives you may also notice

(a) J and I

V and U

H or no H

(b) the first two letters, e.g. AT for Attica;

(c) the second letter, e.g. N for enemies (cp. the illiterate spelling of xqs, xl, yf = wife, etc.); or

(d) any prominent syllable, which, when you draw up your final list in order, had better be marked by some special sign (e.g. underlining or coloured ink).

You therefore have a good chance of forming words: and some of the Competitions in the Weekly Papers (e.g. Tit-Bits, Answers, and Pearson's Weekly) will be the very best practice you can get.

But, supposing that there is still a difficulty, and that you do not like to resort to

(e) forming a sentence with the words which have these initials ; then you may find it easier

(f) to choose the words with *consonants*, and then arrange these consonants so as to form words, *inserting any vowels you like : they will not count.*

Thus you wish to remember "Rebels in the South", "Tyrants in the North": the word aRiStoN will give you this. Cp. ἄριστον μὲν ὕδωρ on the Salutaris-Water bottles. Or

(g) you can add only the vowel *e*.

(h) Cases where you could choose vowel-words, and add your own consonants *ad lib.*, would be very rare indeed. The words AbstEmIOUs and fAcEtIOUs would give the vowels in their order, the consonants not counting.

(i) You may insert letters (especially at the end), or

(j) you may omit letters, always provided that this will not cause any confusion to you.

In fact, the only limits to changes and alternatives are that they must not be the cause of obscurity or confusion for you. If N is clear to you as the representative of eNemies, then by all means let it take the place of E.

Let me repeat it, for it is essential: if you can, then make new words which are connected

with the word or the idea that you want to remember. In the case of a sentence you are certainly far more likely to be able to do this.

In 'A History of Rome up to A.D. 500' (q.v.), I have suggested 'IT CRAMPS ALL' as good Memoria Technica for the Emperor's power at Rome, seeing that it was supreme and did keep others from free and independent action.

In teaching, it is a good plan *occasionally* to offer such words: it helps the learners to bring to the surface what they already know. At least it is better than to spring a list upon them without asking them first to try to make one for themselves; and it certainly arouses some interest.

We have seen, now, that somewhat as we can remember whole ideas by Headings, which are not so much the whole idea as an important part of it, so we can remember the Headings themselves by their initials, or by some part of the words. If we wish to recall the whole, we need only recall a part.

One or two comparisons (which are not to be pressed too far) may make the reason for initialising a little clearer.

In keeping to a path, we are often sufficiently guided by just a landmark here and there; in order to remember a whole song or tune, we often need only remember its first few bars, or even its first notes.

By means of words formed by the initials, we can have a necklace of different coloured beads strung securely together. Instead of having a number of beads lying about here there and everywhere, we now have them all fastened together.

NOTE.

In answer to a number of enquiries as to the best Diet for a clear and good memory, I may say here that I find Milk-Proteid forms the best *basis* for *me*. Each must judge for himself after fair trial ; but this basis seems to give the most easily digested blood- and cell-forming material, with some brain-phosphates. The reader might remember the advantages of "Plasmon", the most palatable of the Milk-Proteids, by the following "Initialising"

Palatable ;
Light ;
Anti-fat ;
Saves money ;
Makes muscle ;
Overcomes illness ;
Nourishes the brain

The reader should apply this Initialising system to various Advertisement-subjects. It is good practice for odd moments, since (alas !) the materials for practice are at hand everywhere.

SECTION XXVIII. BLEND-WORDS (THE BRUNCH-SYSTEM).

WE can extend the Principle by which 'Brunch' can represent 'Breakfast + Lunch,' 'Clotch' 'Clock + Watch,' and so on. A man writing in a hurry once put 'Give my kind respembrances to your family'.

Do you think that this is 'unnatural'? If you do, it shows how very little you know about the way in which Language is formed. In future, when you hear *grammatical mistakes*, ask yourself *why* they have been made, and *again and again* you will find that they have been due to two expressions having been fused or blended together into a single expression. Thus the other day I heard a man call out that some little penny book was 'the masterpiece of any penny article in the world': he was confusing two expressions, '*the masterpiece of all penny articles*' + 'better than *any penny article*'. The beginning of one expression + the end of the other were blended together and produced quite a clear general impression.

Lewis Carroll was very fond of the Brunch-words, which he calls Portmanteau-words. The easiest type to remember is where the beginning of one

word is blended with the ending of the next, or *vice versa*. Thus, if we wished to remember 'Alma and Inkerman' we could say 'Almerman', while 'Lispyd' might be a word for Philip's conquest of Amphipolis and Pydna.

SECTION XXIX. ABSURDITIES AND HUMOUR.

ANYONE who glances at the masses of Comic Papers on a bookstall, or who knows the statistics of their enormous sale, or who studies the Pit of the 'Adelphi' during the comic 'business' in a melodrama, will realise that here is a grand educational factor, if only we could use it—a very Niagara of power—though not for all Nations equally, nor yet for all individuals.

How many of us, for example, can remember well the news of the month by Stead's pages; in the 'Review of Reviews', representing the events of the month by caricatures. 'Punch' also, and other Comic Papers, have done much to educate the Nation: they have helped us to remember that with which otherwise we might not have been impressed in the very least.

I will mention one little instance where the very absurdity or 'meaninglessness' of the word may help it to cling in the memory. If we take Julius Caesar's Death in 44, this would be *rr* by Loiset's Table: the word 'Juliurr' might be formed.

I hope to treat of this subject more fully in the future: so for the present I leave it with the suggestion that it deserves investigation.

SECTION XXX. RHYME AND ALLITERATION.

By Rhyme, be it understood, I do not mean merely Poetry: I call the following lines Rhyme—

‘Thirty days hath September,
April, June, and November;
February hath twenty-eight alone,
all the rest have thirty-one,
except in Leap-Year: then’s the time
when February’s days are twenty-nine.’

But I do not call them Poetry. No: by Rhyme *here* I mean *a special kind of similarity of sound*, generally with Rhythm also, *turned to a useful purpose*.

Of the Rhyming Advertisement (such as ‘They come as a boon . . .’, see the Preface) I have already spoken. Children are usually very fond of Rhymes, and learn lots of idiotic meaningless jingles quite easily and quite ‘indelibly’.

Rhyming is one of the very greatest aids to memory that we possess: it is also one of the greatest obstacles to learning, if it is used improperly (Section XXXVIII.). And it is *so* apt to be used improperly, so apt to be used by people as a means of remembering the mere sounds of words, apart from any ideas, that with such people I should say

that it was generally an unsafe means to employ: but, even with such people, Rhymes may be valuable as a means of 'securing' lists of *lifeless* facts and dates, etc., if these lists *have* to be 'secured' somehow.

Before I go on, let me purge the reader's mind of the idea that Rhyme is something sacred. It is true that Rhymes are used in Hymns, and that Rhymes are used in beautiful Poetry, such as that of Milton or Tennyson. But Tennyson himself, according to Max Müller, would not have admitted anything to be revered in the Rhyming itself. No: Rhyme has no sacredness—it is not, like so many things (alas!), cut off from being applied to a useful purpose because it has some connexion with religion. Rhyme was given us to be used, and we can use it for scarcely any better purpose than for remembering.

The Zodiac Signs, the lists of Latin Prepositions, the lists of Latin Genders, the English History Rhyme ('In 43 a Roman host | from Gaul assailed our Southern Coast . . .'), the Rules of Whist, and many other instances, will be enough to prove that, in past times, Rhymes have been a very great help to the memory—more than one of these lists, if examined carefully, will also be enough to prove that Rhymes have been made a means of stuffing the brain with some singularly useless information.

But the frequent misuse of a thing is, in itself, no real argument that it should not be used at all. And, if only the directions in Part III. are carefully attended to, Rhymes will become, I think, a great saving of time and energy: though I know there are some who say that they cannot learn them.

I will suggest a few hints here.

After collecting and selecting and arranging your Headings, and after thoroughly 'realising' (XV.) first the general outline, and then the individual parts, one by one, and after repeating by the *Résumée* - method, then try to turn them into Rhymes.

There are many metres to choose from, and a Rhyming Dictionary (e.g. Walker's) should be used at first—but as little as possible. Do not think that this is silly work: many great writers and speakers have practised turning things into Verse, and they say that it has wonderfully improved their style and their command of language.

I find that a journey (especially in a train) is the best place for composing Rhymes.

In writing out the result, do not begin each fresh line with a capital letter. It is apt to distract the attention in the middle of a sentence, and I regard it as one of the great objections to the reading of Poetry.

If you find the transitions (from one idea to

another) difficult to remember, then 'links' should be used: but in IV. you will find an instance where there is no need for this, because the Headings have already been initialised into words.

It is wonderful how quickly the faculty of Rhyme-making is acquired. Of course the better the class of Rhyme, that is to say the nearer it is to Poetry, the better it will be for you. Therefore study good Poetry, and (see XXXVIII.) learn some of it really by 'heart', not merely by 'rote'.

As to the reasons why Rhymes are easier to remember, first of all there is the regularity of the Rhythm (see next Section), and then there is the similarity of sound: if you can remember the ending of either line, then that will very likely help you to remember the ending of the line which rhymes with it. You have a double chance.

Alliteration is often found to be at the root of that which impresses itself upon our memory. 'Williams' Pink Pills for Pale People', 'Carter's Little Liver Pills', 'Rhyme and Reason', 'Deadwood Dick's Big Bonanza' (see the Essay-Book, p. 304). Whereas the Rhyme as a rule means that only the endings of the two lines resemble one another in sound, the Alliteration may mean that many words resemble one another, especially in their beginnings. Instances have been given in Section V.

SECTION XXXI. RHYTHM.

THE power that Rhythm possesses over the human mind is older than the power that Rhyme possesses: not only savages but also animals are greatly affected by it. It seems to be closely connected with the rhythm of physical movements, such as one sees in a Maori War-dance. As an instance of how Rhythm can help to carry on, without a halt, what would otherwise break down, one may take the case of the stammerer, who—especially if he be helped by music—can often continue rhythmical speaking without a pause. Rhythm and Rhyme together form a strong combination. Paraphrase Poetry into Prose, and it will be twice as hard to remember.

But there is this to be borne in mind: if the *sounds* (as one reads out loud, or reads to oneself, or simply listens) are apt to carry one away, if in themselves they are enough to impress themselves on the memory, like a piece of music without words and—for the millions—without meaning, then there is a great danger that, while one remembers the sounds, one will not remember the sense. Nay more, speaking for myself, I may say that, though for over twenty years I have remembered the sound

of Gray's Elegy, and have been able to repeat it easily, I never properly realised the sense till a little while ago: and what one has never properly realised one cannot properly be said to remember either.

Rhythm, then (except in the case of lifeless lists), should never be used to help the memory until the *sense*, the ideas, have been thoroughly *realised*. I am firmly convinced that the fine swinging Rhythm of the English version of the Lord's Prayer (a Rhythm not to be found in the Greek) has had almost as much to do with the prayer being ill-understood and scarcely realised as even the language itself.

It must be borne in mind that other Languages are useful here: Greek Iambics, and Latin Hexameters (Section V.) and Elegiacs, are all useful, and are good practice in the learning of those Languages.

Rhythm 'cements the whole mass together'. In ordinary Prose there is little to help the memory beyond e.g. certain logical connexions (cause and effect, etc.) between one idea and the next, or perhaps an occasional similarity of sound. With Rhythm, however, we have an additional help, viz. the metre itself, which is in reality a sort of framework. It gives us the *patterns* and quantities of those words which we want to remember.

SECTION XXXII. MUSIC.

OF music as a help to the memory I shall say very little, except (*a*) to suggest it as a subject deserving very careful research, and (*b*) to give a warning, like that which I have already given about Rhymes and Rhythms: viz. that music should not be applied as a help to the memory until the *ideas* themselves have been thoroughly realised.

Into the question of why music should help the memory I cannot enter here: nor would I assert that *any* sort of tune would help us to remember any sort of words. But two points may be worth noticing.

In the first place, without doubt there are certain kinds of music specially adapted for certain 'tones' of feeling, anger, sadness, happiness, majesty, and so on.

Secondly, certain notes are closely connected with certain vowel and consonant sounds: thus the cat's-cry (as I have pointed out in 'How to Learn Philology') is sometimes a tune in which certain vowel- and consonant- sounds and glides (*m*)*ee—yah—woo*) seem to accompany the various notes, as naturally as people say 'ha! ha!' when they laugh on a low note, and (sometimes, in the case of the female sex,) 'he! he!' when they laugh on a high note.

SECTION XXXIII. EPIGRAMS.

'TAKE care of the pennies and the pounds will take care of themselves' is an alliterative Proverb of an epigrammatic kind: it is also grossly inaccurate, though a certain lady could never see the inaccuracy; she once took an hansom to the Stores and back, because she could get something there at threepence less than it would have cost at the local shop.

The reason why Epigrams are easy to remember is this: they are often alliterative, they are short and compact, they are striking (partly because they are unexpected, and partly because they arouse our distrust, our feelings of resistance, our feelings of 'fair play'), and they concentrate the attention on a single aspect of a thing; it is not distracted by pros and cons, but merely has to look at one 'pro'.

I should not recommend them to be used on all occasions indiscriminately. Here and there, however, they—like the occasional raising of an orator's voice or the occasional thumping of his fist on the table or pulpit—do serve to wake up the flagging attention. The orator, however, must beware of shouting too often, or of thumping continuously: if he uses these means too often, and

especially if he uses them where there is no need for emphasis, then we shall cease to be aroused even when the point which he wishes to impress upon us is really important. So it is with the use of epigrammatic phrases.

SECTION XXXIV. **ALTERNATIVES AND COMBINATIONS.**

I HAVE already insisted on the fact that, of these helps and systems, some are of almost universal application (e.g. 'Realising', XIV.), whilst others are suited for certain subjects (e.g. the 'Substitution-System', XXVI., for Dates and Numbers), or for certain people (e.g. the 'Substitution-System' for those who find it hard to remember Numbers), but may be unsuited for other subjects and for other people.

In other words, each subject which is to be learnt and to be remembered probably has some one or more helps or Systems which are best adapted for it in the case of each individual; for example, in your case perhaps the 'Realising' and 'Résumée-Method' alone may be sufficient, at any rate for most of the subjects that you may wish to remember.

If, however, there is some subject which it is of the utmost importance that you should remember with absolute certainty at a moment's notice, then I recommend you 'not to venture all your learning' in one Method or System, but (see IV. and V.) to combine two or three Methods or Systems, making them ready to reinforce one another, so that, in case one strand of the rope should give way, there may still be other strands that will hold firm.

A good general guards against the possibility of defeat in any one place. Reflect, also, that the strength of a fortress often depends upon the strength of its *weakest* point. To use another comparison, in case the electric light should fail you while you have important work to do, keep candles and matches not far off.

The instances of Combinations which I have given scarcely need reinforcing: but let me add another Classical History example, viz. Philip's conquests from 357 to 346: I will suppose the facts, and their effects, etc., to have been already 'realised' by the aid of a Map, etc.

1. *Rhyme.*

From 3, 5, 7 when Athens | is fighting her Allies,
Amphipolis and Pydna | are won before her eyes,
Potidaea; then Philippi | a mine of gold supplies;
Methōne in three fifty-three; | in Thessaly he beats
the Phocians, also Pagasae: but from the Gates retreats.
Olynthus in three forty eight; the Phocians 3, 4, 6.
After the Peace he TAME-ly seems in conflicts scarce to
mix.

2. *Rhythm.*

A kind of Hexameter Rhythm might be suggested, as follows:—

Ámphipolis Pydná Potidaea Philíppi Methōne,
Phocians, thén Pagasáe, then Thérmpyláe, then
Olynthus.

3. *Initialising.*

TAME suggests his quiet organising of
Thessaly and Thrace; his attempts to become pro-
tector of
Argos and
Messene (against Sparta), and his schemes in
Euboea.

4. *Substitution and Links.*

"Peace—War-marching (346)."

5. *Brunch-word.*

Amphipolis and Pydna—lispyd.

PART V.

THE SYSTEMS APPLIED TO VARIOUS SUBJECTS.

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SECTION XXXV. **MAPS AND PLANS.**

To be able to draw Maps and Plans is very useful, not only for the purpose of learning Geography and History, and for remembering about Railway-lines, and for giving an interest to any kind of travelling, but also for such subjects as Anatomy, Physiology, etc. It is a well-known fact that the knowledge of these subjects is helped very much by the use of pictures, photos, and models; but, out of the thousands who study these subjects, there are very few who could reproduce the drawings for these.

For example, out of some hundreds of Honours' Pupils at Cambridge, men who have been learning (or are supposed to have been learning) Greek and Roman History for many years before, only quite a few have been able to draw a Map of Greece or of the Mediterranean, or a Plan of Rome: and what is true of an educational subject like this is equally true of other subjects of a more practical nature. There are many who cannot draw a Map of England, or of England's position in the World.

It is a great fallacy to suppose that drawing by mere tracing or copying must necessarily impress

the subject upon the mind. Drawing is of little use unless the subject itself be thoroughly 'realised' at the same time.

In accordance with the order of the Sections in this book, a learner is advised to concentrate his attention on the subject, to interest himself in it, partly by thinking over the advantages of mastering the subject, and partly by trying to reproduce at intervals what he has learnt.

Above all he is advised to select, and to reject as much as possible: that which will distract his attention far more than anything else, in an average Map or an average Plan, is its excess of detail; in reality, to begin with, he should omit whatever *can* be safely omitted.

At the same time he should emphasise, either by thick type or by underlining, or by differences of colour, anything which is of particular importance.

Another great help towards learning and remembering a Plan, for instance a Plan of the human body, is to find out what are the uses and the connexions of the various parts.

As in most subjects, so here, it is not easy to begin (as 99 people out of a 100 do) by studying the whole Map or Plan all at once. The learner should first get a very rough outline, the rougher it is the better; then he should get this outline thoroughly into his mind's eye; and then try to reproduce it;

after he has tried, let him look at the outline itself and correct his attempt by it. Having thoroughly mastered the general outline, he may now proceed to study the various parts: to take each part by itself and to get it absolutely into his head.

If you wish to test how far you have mastered the whole with its various parts, try to describe and explain it to others, or to reproduce it for yourself. This will be one form of repetition, and the Map or Plan should be constantly 'repeated' at *short* intervals and corrected as well. After correction you should practise and strengthen the points where you are weak.

Coming to the Memory-Systems, a vast amount of trouble can be saved by the observation of useful points. Professor Meicklejohn has done a great deal towards making the study of Geography easy by showing what are the chief lines and directions in Maps; I give a sample of my own here.

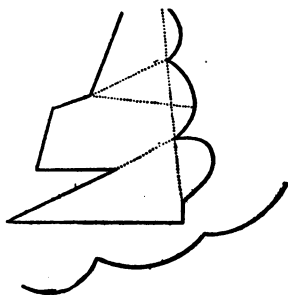


Diagram XI.

The 'Link-System' is as useful for Maps as it is for other things; by it you can remember quite easily all the main stations on any given line.

Of 'Localising' I have already spoken in XXIV

Professor Stokes has brought it to great perfection in his globe of the world (see above). But, of all the Systems that I know for remembering Maps and Plans, none equals the following in respect of facility and rapidity and certainty. Every one feels that the Map of Italy is easy to remember because it looks like a booted leg: it looks like something which is familiar to everybody; let us apply the same principle to a few other countries.

We have had a Map of the Peloponnesus: it is not easy to remember, as you will find, if you try and reproduce it some days hence; but, supposing you held your left hand opposite to you, with the fingers pointing downwards and the palm facing you, and supposing you drew what you saw, you would have something which you could always reproduce at a moment's notice, and which would be quite like enough to the Peloponnesus for all ordinary purposes.

Again, take the Map of the Mediterranean, of which I spoke before: *that* is not easy to reproduce. But study it and the following Diagrams in their order, and you have at once a method which will help you to draw the Mediterranean in rough outline in a few seconds. Notice also how easily the Capitals of the Ancient Eastern World can be remembered by means of the Diagrams and Initialising below.

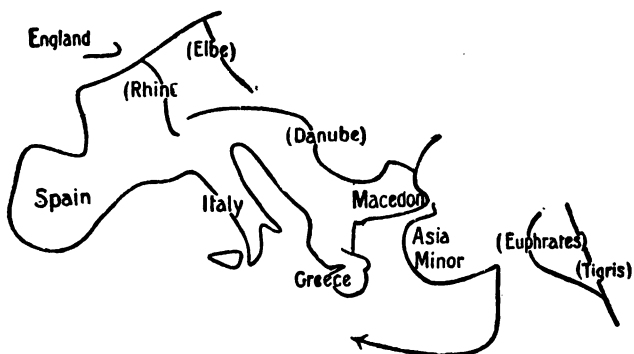


Diagram XII. (Sahara)

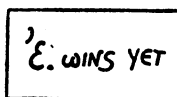


Diagram XIII.

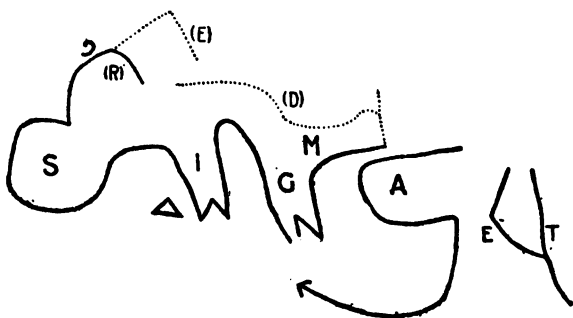


Diagram XIV. (S)

Lastly, look at the Map of England, and then look at these means of remembering it, and see below as well. There are at least ten other ways which would be equally good; for a list of things which are so familiar to every one that they form easy starting-points for these rough outlines, see the end of the Section.



Diagram XV.

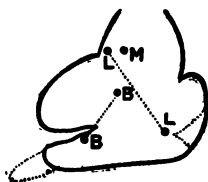


Diagram XVI.

You will say that this is very inaccurate. So it is; but Maps themselves are inaccurate; no Map has ever yet absolutely reproduced the exact coast-line: we have to be content with something near to the truth; we must get a general impression of the whole before we begin to study any one part, and then of course each part can afterwards be studied by itself.

The Initialising-System comes next in importance after this Rough-Outline-System.

The chief Eastern Capitals and Countries in old times might be remembered by the Initials, P.S., N.B., E.S.P. See Diagrams XVII. XVIII. XIX.



Diagram XVII.



Diagram XVIII.



Diagram XIX.

The initials of the different Languages spoken in the North of the Mediterranean, namely, Celtic, Italic, Greek, Armenian, and Aryan, will form the word *Cigar*. The initials of the three Greek Tribes, Aeolic, Ionic, Doric, will form the word *Aid* (see Diagram XX.). In Diagram XXI. we see these Greek Tribes in Greece proper: the figure 5 gives

a rough idea of the shape of the East coast of Greece proper.*

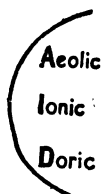


Diagram XX.

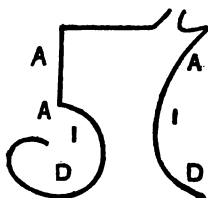


Diagram XXI.

Names, even ridiculous names, are better than nothing : for instance b, a, c, a, l, m, a (see above). The use of absurdities and of even the feeblest jokes is by no means to be overlooked ; I consider some of Professor Stokes' puns to be so absolutely silly, that they are among the best aids to memory that can possibly be imagined : there are many who can never forget the very *worst* puns.

Rhymes and Rhythms are also extraordinarily good for fixing long lists of names in the memory : Canon Farrar has an art of stringing together such lists, so that the swing of the rhythm helps the words themselves to cling to the mind.

List of useful Starting-points for Maps and Plans.

The Alphabet forms a very good starting-point ; the capital letters, the small letters, and Greek

* For a list of useful helps for the Eye-Memory, see below.

letters, either separately or combined, will give a great number of shapes.

Straight lines and curved lines, generally speaking, are also of assistance (Diagram I., etc.). Alma Tadema's drawing of a pig, composed of straight lines, will form a very good example (Diagram X.). Various figures, such as the circle, the oval, the triangle, and the cross, and combinations of these, also afford good starting-points; pictures of men and women in various positions and of various sizes, upside down or in profile, will help as well; and Diagram No. XI. might help to impress upon the mind's eye the general shape of England. See page 169.

Parts of men, such as the foot or leg, the hand (Diagram VIII.), the face, the arm, and the hats or umbrellas of people, the various numbers, such as the number 5 (above), and their combinations, all these may be utilised.

Think again of all the things inside a house, things which one knows by sight as well as possible, candlesticks, lamps, basins, jugs, cups, spoons, sugar-tongs, glass bottles, brushes, chairs, and sofas, etc.; or think of the things in a street, such as carts, lamp-posts, and houses; or of the various implements in games, e.g. bats and rackets; think of trees and their various parts, for example their leaves.

These afford endless variety, and there is practically no Map or Plan which might not be remembered,

if certain things from the above lists were arranged and combined in the right order.

When once the rough outline has been thus impressed upon the memory, the various names and parts can easily be added and secured by means of Rhymes or Links, or by means of some of the other Systems.

SECTION XXXVI. NUMBERS AND DATES.

ONE of the great difficulties in remembering numbers and dates is the difficulty of working backwards ; we may be able to remember the date of an event, but it is not so easy, when we have the date itself, to be able to remember what was the event belonging to that date. This seems to me a great weakness of most of the Memory-Systems : we need a process by which we can work equally well from the date to the event, or from the event to the date.

As to the value of numbers, we often wish to remember the numbers of cabs and houses, of distances, of times, and also various large numbers for various purposes. The different coinages of different countries give another instance of where it would be useful to remember numbers.

Dates, if they are properly chosen and properly used, also have their value. They form a kind of framework or scaffolding : they show us whether changes, such as political changes, were quick or slow ; they tell what was happening in other countries at the same time. I grant that most of the dates which are learnt at schools are absolutely useless, but that has nothing to do with me ; all that I try to do is to show you how you may

learn a date, *assuming* that you have some reason for learning it.

I need not repeat the various helps which I have suggested in Sections VI. foll., e.g. concentrated attention and interest in the subject, and a collection of the dates or numbers themselves. All this I will suppose to have been already attended to.

With dates and numbers, as with Maps and Plans, the first thing to do is to reject whatever is unnecessary: just as you should learn the fewest possible names on any given Map, so you should learn the fewest possible dates in any given History. Again, you can omit the centuries, if you know them (cp. 'It happened in 84'), or you can omit the last figure of a date if it is not important. In very early dates the exact figure is seldom of the slightest consequence. Unfortunately, Schoolmasters and Examiners think otherwise (if they ever think about it at all), and, as long as they expect exact dates to be given, so long will those who are examined have to learn exact dates. Schoolboys have no idea how many causes they have for 'strikes'. Schools are still governed on the despotic principle. But for *practical* purposes we may safely say: 'Omit as much as you can.'

The next point of importance is to arrange your dates and to emphasise them, marking great dates in thick type, and marking trivial dates either by

tiny figures, or by putting them in some position where they will not be noticed.

Don't be afraid to alter a few years, if (cp. XIV.) by this means you can get a convenient way of remembering the numbers. We have seen that this same System can be applied to Maps also.

The next method of learning dates is to get the sight of the date into one's mind's eye, or to get the sound of the date into one's mind's ear, if the expression may be pardoned; you must get a good 'impression' of the look of the figures or the sound of the numbers.

Comparisons may be of some use, as the date 509 in Greek and Roman History (the Republic begins at Rome, and Cleisthenes' Democratic reforms at Athens): 1066 was the date (?) of Codrus at Athens and of William the Conqueror in England, though one, of course, was B.C. and the other A.D.

Contrasts occasionally are useful, as we see with the dates 494 and 449.

Repetition need not detain us here, but it may be as well to notice that you can repeat either the sound of a date, by listening to yourself, or to some one else, or to a Phonograph, or else the sight of a date—a method which suits some people better than others.

A useful plan is to write the dates in large figures across pictures of the events. Another plan, which is a repetition both for the ear and for the eye, is to

write out the numbers again and again, saying them to one's self each time.

With regard to the observation of useful points, that also may be very helpful, as we see in the case of the Kings and Queens of England (above): the Battle of Issus, with its three Ss, has an easy date, viz. 333. Some of these useful points (such as numbers of cabs like 1357, 1248) one notices at the time as very easy to remember, but afterwards all that one *does* remember is that there was something *convenient* about the numbers. These 'observed points' are apt to be forgotten when the critical moment comes.

Of the 'Link-System' and of the Localising-System we shall speak below.

The 'Substitution-System' is the commonest of all, though it needs long practice and preparation beforehand. The principle of it (see XXVI.) is that each number has one or more consonants corresponding to it: for instance, 2 has T, D, and TH corresponding to it, as we saw; and 6 has the letters S, SH, J, CH, G. These correspondences must be thoroughly mastered, so that directly one sees the letter T one thinks of 2, and 2 in its turn calls up the letter T.

This, again, is a good thing to think of in idle moments.

Having taken a given number, and having found the letter corresponding to each number, all that you

have to do is to form these letters into a word or words by supplying the vowels you need. If you can possibly form words which are connected with the event, etc., so much the better; as I pointed out above, CHARLES DARWIN and the word SPecies, which gives the date (18)09, is an ideal instance.

Some prefer to form these consonants into sentences, making each word in the sentence begin with a consonant which represents the number of the date; cp. Section V.

If you cannot think of a word connected with the idea, then you have to link the word and the idea together in some way or other (see XXIII.); the formation of new words by altering the ending of the word itself (see XXVI.) may also be of use occasionally.

A second Substitution-System can only be employed rarely: the principle of it is that all the numbers up to 10 have different endings, so that, instead of putting the numbers themselves, you can put *syllables which rhyme with them*, and form these syllables into words. A certain amount of freedom can be allowed. A couple of instances will be sufficient: supposing that my cab to King's Cross was 2184, then the words, 'Do run Great Nor(thern)' would rhyme with these numbers. Tarquin's date was 510 (five one naught), and the words *Pride and Haugh(tiness)* would give a near enough resemblance.

The following Algebraical formula for Progressions may also be suggested as an instance of the same general sounds being used: $\{2a + (n-1)d\} \frac{n}{2}$ might be 'Douay doesn't find us (Two *a* plus *n* minus)' The word *beautiful* would be quite enough to suggest the number 234. But, as I say, there are not many cases where this System is of any use.

The 'Space for Time' System, as it is called, is not one to be neglected. Space appeals to the eye, and a large interval may be represented by a large space. Professor Stokes' plan of a circle, marked off into spaces of 10 years, has much to be said for it: I refer to his book for the System itself. Again, long spaces of time can be represented by large numbers in large type, and smaller spaces by smaller numbers in small type. When a number of events are crammed into a single year, the events can be in smaller type; and there are many other ways in which space can be substituted for time. In the history of Language, many words now denoting time originally denoted space (e.g. Latin *ubi* 'where' and 'when').

The Rhyme-System is a very old one for numbers. The best known example is the English History Rhyme beginning, '*In 43 a Roman host | From Gaul assailed our Southern coast*'.

Under Rhyme may be included jingles, such as the date of Philip's Conquest of Methone (Methōnē,

three five three); the danger of this is that the jingle is apt to remain in the mind without any ideas, but there is no reason why it should be so, if the facts are properly realised first. There is no doubt that, by means of Rhymes, dates can be remembered by most people far more quickly and far more thoroughly than by any other method.

I would not suggest that the same method should be always used: rather let the methods be varied and, in case of any number of great importance, let them be combined.

Let me repeat that, with any System, and with the Date-Systems especially, it is necessary to go through some tedious apprenticeship, if one wishes to succeed in the end: no real help can be got from the Systems without a good deal of laborious work by way of preparation.

SECTION XXXVII. **ENGAGEMENTS, ETC.**

ONCE again, I will assume that you have collected and selected all the proper Headings, the morning of course being the best time for this work: I will assume, also, that you have arranged them in the proper order. The next thing to do is to 'realise' them, and you can realise them either by means of the eye or by means of the ear.

Some people find it a great help to act in imagination whatever they have to do during the day. If they have to call at No. 7, which has a green door, then they imagine themselves going up to No. 7 and seeing the green door. Others may be helped by drawing a picture of No. 7; others by saying to themselves, once or twice, 'I have to call at No. 7'; others by writing it down.

The 'Localising - System' is suggested by Professor Stokes; an instance might be the following. If you have to pay an important call at 3 o'clock, and you know that at 3 o'clock you will see a certain thing, for instance a book on your shelf, or the face of some particular person: imagine now that on this book or on this face there is written the word 'Call'; then, when you see this book or this face at 3 o'clock, you will immediately be reminded that you

have to go and pay a call, the great requisite being to choose something which you are certain to remember at the time, and to this thing to attach the idea which you want to remember; of course the two may be attached together by the 'Link-System'.

The principle is somewhat the same when a man, who is in the habit of leaving his umbrella at different houses, adopts the plan of putting his umbrella into his hat or fixing his hat on the top of his umbrella in the hall, because he knows that when he goes out he will be bound to take his hat, and to the hat will be 'attached' the umbrella.

One gentleman, whenever he travelled by omnibus, used to rest his umbrella against his leg; when he got up to go he was reminded of his umbrella by its fall; a knot in the handkerchief is not a reliable means, unless, perhaps, one has a cold.

For my own part, I have found Initialising (see XXVII.) the best help for remembering engagements. Rhymes also I have sometimes used, and alliteration also; and, where the matter has been a trivial one, I have resorted to Note-books and Memorandum-cards. For this help, see Section XL.

SECTION XXXVIII. THE LEARNING OF POETRY.

WHEN I was about 10 years old, I knew Gray's Elegy by (what they curiously call) heart: there was really no heart in it—I knew the sound perfectly, but scarcely had a notion of the sense. It did very little good; and yet most poetry that is learnt is learnt in the same poll-parrot or Phonograph fashion. I only offer here a few suggestions which may help to keep the learner from making the same mistake that I did.

Supposing that a learner has secured good conditions for learning, that he has concentrated his attention, and that he has got some interest in the work, he may find it useful to proceed as follows:—

First of all let him analyse the piece of poetry so as to get hold of the idea or ideas of it: let these ideas be expressed as Headings. Perhaps he may like to underline the Heading-words in pencil in the Poetry itself. Then let him work out the connexion between the various Headings: let him see, for instance, how one idea is connected with another as cause and effect.

Even yet it is not time to begin to think of the Poetry itself. Besides emphasising and marking the important ideas, he must get a general idea of the

whole piece. Then let him take each part and analyse it: the questions which I suggested above will be found useful here.

Repetition is the next step, only it must never be repetition merely of the sounds of the words, or of the sight of the words: both these kinds of repetition are degrading. You may, it is true, write down afresh the words themselves, but you must think of them not as words, but as ideas: no matter how slowly you have to write, you must realise each sentence, as you see it or read it.

For my own part, I have always found it best to say the Poetry out loud, or 'out loud to myself'.

It is the greatest mistake to try to learn the whole piece at once: a single stanza at a time, or even a single sentence, is quite sufficient.

After thoroughly mastering one part, do not go straight on to the next: first of all read through what you have already done, then master the second part thoroughly; before you take the third part, go through the first and second parts, and so on; by the time you come to the tenth part, if there is one, the first few parts will have already been learnt (see XXI.); only let me emphasise the importance of never attending to the sight or to the sound of the Poetry, but always to the ideas; it may seem strange, and it may not be a universal rule, but at least it is a general rule that by this means you not only acquire the sense of the Poetry, but it also clings

in your mind as a series of sounds as well ; in other words, you have learnt the sounds, without having learnt them *as* sounds at all. At intervals you should repeat from memory and test your acquisitions, noticing where you fail, and strengthening the weak points.

In connecting the various Headings together, so that after one part you may pass on easily to the next, you may either observe useful points (see XXII.) or you may 'link' the Headings together (XXIII.), or 'link' the last word of one part with the first word of the next.

Barter suggests the system of Localising (see XXIV.) the ideas which are to be remembered.

'Initialising' (XXVII.) may also be used to help you to remember the Headings.

Music may possibly be a great help.

Last of all, I might suggest that you should try to write Poetry for yourself, or rather, I should say, to write Rhymes. It is easier to begin by turning some one else's Prose into Poetry, or, conversely, you might paraphrase and turn Poetry into Prose. A good time for this is a railway-journey, and not a bad time is when you are getting up or going to bed, but above all, if the Poetry is really Poetry, don't trouble about the sound or the sight of the words, but *realise the ideas*. I believe that by doing this the learner will, in most cases, be learning the Poetry itself as well.

PART VI.

PRACTICE, AND OTHER HELPS.

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SECTION XXXIX. PRACTICE, AND HOW TO PRACTISE

A GOOD deal on the subject of practice has already been suggested in the different Sections and under the different Systems, so here I shall confine myself to general advice, and I shall try to point out *how* one ought to practise, *when* one ought to practise, *where* one ought to practise; and also *why* one ought to practise.

First of all, as to the question of *how* to practise: it will involve a good deal of drudgery at the beginning, because, as in every new employment, the initial steps are always apt to be difficult. In trying new exercises, in the same way, we find an awkwardness and clumsiness at first, because fresh muscles and fresh combinations of muscles have to be used. It is an almost universal rule that the more correctly and slowly and gradually one progresses at the outset, the faster and better one will be able to do the thing itself eventually.

I have already made it clear that, whenever one wishes to learn and to remember anything, one should first of all *concentrate one's attention* on that, not allowing the attention to be distracted by anything else. I pointed out that it was hard to do this unless the

subject had its *interest* (VIII.). I then went on to say that with nearly all subjects it was necessary to *collect* the Headings, to *select* them, and to *arrange* them, and then to be sure to '*realise*' each Heading thoroughly, usually by picturing the idea as an actual scene, by 'imagining some one doing something'. The more important a subject is, the more thoroughly must each Heading be realised.

Then comes the work of repetition, which (see XXI.) has a great many different meanings: but the chief thing to notice about repetition is that each Heading must be mastered by itself before the next Heading is attacked, and that then, when the second Heading has been mastered, the first and the second should be repeated before the third is attacked, and so on.

After this I came to the actual Memory-Systems, which I suggested certain ways of practising; and here I must add that you should begin by practising under the simplest, the easiest, and the best possible conditions, and when it does not matter very much whether you succeed or fail. After you have thus acquired skill at some one system, then it may be as well to put that system to the test in various things of some importance. The Exercises which will be best for you will be those which you make up for yourself; for instance, if you wish to practise the 'Link-System' (XXIII.), take the name of some one you know, and his address, and

'link' these two together. Or take the name of some one you know, and some peculiarity in the appearance of that person, such as 'red hair', and then 'link' those two together. Do not be afraid of spending a little time on these Exercises: do them very slowly and carefully.

Again, if you wish to practise the memory of the eye (cp. XV.), notice a house: then look away from it, or shut your eyes and try to reproduce it in your mind's eye, or else try to draw it on paper. Afterwards look at the house, correct your attempt, and then try again.

The great advantage of this kind of practice is that it is possible anywhere and everywhere.

As to *when* to practise, there are thousands of occasions, in fact, one might say that almost any moment at which one is not doing anything particular can be used for practice—for instance, while one is dressing, or travelling, or walking, or waiting; and it may be as well to keep notes of one's experiences (see XL.), so as to see how much one is improving.

The question of *how long* one ought to practise is very easy to answer. One ought often to practise till one's attention begins to wander; it will then be time either for a rest, or else for a change of the subject or of the method of treating it.

As to *where* to practise, this question has been already practically answered, when I suggested the

times for practising: trains, 'buses, waiting-rooms, will be among the places that are most obvious.

Last of all, as to *why* one should practise beforehand. It is quite necessary to practise, because otherwise, when you come to do anything of importance, you will find that you do it slowly, or even that you fail altogether. Of course you will fail very often during practice, but that is much better than the failure while you are doing the thing itself, for here success or the reverse may mean a great deal. To take an instance—it is much better to fail while you are practising in a train, than while you are actually answering the question in the Examination, on which a great deal of your future may depend. It is probably because of constant practice that professionals are usually so much better than amateurs at Games. It is not that the amateur does not make brilliant strokes occasionally, but that he does not make certain of the simpler strokes: whereas the professional does. He has practised them so often beforehand, that he succeeds in them almost as infallibly as an automatic machine.

You must have often noticed that something that you do very easily now, and which you do almost instinctively and unconsciously, was once a very great effort and demanded your whole attention; and even then it had to be done very slowly, and mistakes were frequent: in the initial stages your working was very clumsy. Later on, you learnt by your failures as

well as by your successes, and after constant repetition the processes became easier and easier: they needed less attention, and could be carried out more and more quickly every day. Then perhaps it became almost unconscious, somewhat as in playing the Piano one may be almost unconscious that one is playing rightly, until one stops doing so, e.g. by playing a wrong note; in other words, you are unconscious of any effort: you are almost unconscious of doing the thing at all, until you make a mistake; the final stage is that the whole thing is done practically unconsciously or, rather, sub-consciously.

You can apply this to various examples, such as fencing or bicycling. When you have reached this stage, you have succeeded in handing over, as it were to a servant, a piece of work which before you had to do for yourself with an effort of will. You can now trust this servant of yours to do it quite right, while you devote yourself to something higher, to something, that is to say, which will exercise the higher powers and faculties, such as those of reason and inference.

In conclusion, let me expose the fallacy that 'Practice makes perfect'. It is true that perfection cannot come *without* practice, but the practice must be of the right kind, and must be done in the right way. At first you must practise one method or System at a time, carefully and slowly, when the result is unimportant and when the condi-

tions are easy ; and then, after frequent repetition, you will be able to do the thing more rapidly, and with less effort, and with greater success, and where the conditions are harder and the success or failure is of importance.

For it is essential to get your mechanical work as perfect as possible, and to get your failures over, before you have to test your skill on any critical occasion.

SECTION XL. GENERAL HINTS AND HELPS.

I WILL take it for granted that you have done what you could to insure good health and the best conditions (see VI.); you should now practise all the methods and the Systems, and give each a fair trial. This means concentrating your attention on one particular method or System at a time, and getting interest in that method, either because it will be an advantage to you to improve your memory for some particular purpose, or else because the method itself has some interest. For example, try to get at the reasons for these Systems, asking yourself what it is that children most easily remember. Or again, study how Language is made and changed (see XLI.).

While you are trying any particular System, keep records of your progress in respect of facility and rapidity and permanence or reliability.

Then, when you have given a fair trial to all, choose whichever methods or Systems are most suitable to you *individually*. You will find that it is quite worth while to spend some considerable time in testing and choosing, so that you may make quite sure that some method or System will not suit you, before you decide to reject it altogether.

The way *not* to try these Systems is to rush through the book, and then to try them casually on

a few instances taken at random. You cannot properly judge of the merits and demerits of any System until you have taken it by itself, and tried it, at first slowly and repeatedly, until you have got the foundations firm, that is to say, until the processes have become almost automatic. Do not grudge the time spent at the outset in securing the first steps; whatever you do, no real good will be accomplished unless the foundations are laid deep and firm: this applies universally; it holds good for all Games, such as Golf, and for all occupations (see XLIV. and XLVI.).

If some particular method or System does not suit you, if it is your weak point, as it were,—then give up a little time to practising it. It will be a good way of making use of any odd moments.

Each method and System having been fairly tried, it is now time for you to pick and choose your methods according to your faculties. You will have to study and find out by observation which are your best faculties: this means that you will have to go over your mental stock-in-trade. You may find that your faculty for seeing pictures in the mind is stronger than your faculty for reasoning or for understanding ideas.

For ordinary purposes, then, you will choose the method or System which suits your best faculties. And, secondly, you must be careful to choose your method or System according to the subject; thus,

for casual engagements, which only need to be remembered for a few days, and are then best forgotten, you will probably find the 'Initial-System' (see Section XXVII.) or the 'Link-System' (see XXIII.) to be the best. On the other hand, you will have to give more effort, or to use the several Systems side by side, for really important subjects. In Education, for example, complete lists are among the topics best worth remembering.

As far as you possibly can, use your own home-made examples ; for what you make for yourself you are likely to find more valuable to you than what you receive ready-made from others. In the 'Link-System,' for instance, use your own associations of time and place (see XXIII.).

For general improvement of many powers of the mind, I should suggest Essay-preparing: not the writing of actual Essays, but the jotting down and arranging of Headings for Essays. Another good plan is to analyse and make lists of the main ideas of every book that you read, even if it is only a novel. Afterwards go through the book quickly, and see what you have omitted.

One word of warning must be repeated: do not attempt to apply any of the Systems for any important purpose before you have practised them well, and have become fairly skilful with them. And even then you ought never to use a System to remember a thing by, without first realising the

thing itself. But, above all, do not be stingy of time, especially your spare time, for practising the Systems which suit you best, and even the Systems which suit you least.

One of the greatest difficulties of remembering is the difficulty of forgetting. One does not wish to remember *everything*, and yet one is constantly forced to take ideas into one's mind without the power of getting rid of them. There are many things of which the interest only lasts for a very short time—things which we should like to forget as soon as possible: we do not wish to burden our memory with them. How can this oblivion be achieved?

Note-books and pieces of paper for Memoranda are perhaps the most useful means of all for relieving the memory; and of all Note-books the 'A B C,' or 'Where is it?' Note-books are perhaps the best. They certainly classify the subjects in such a way that you can easily find anything you want. There is of course a great objection to Note-books and Memoranda if they are used in excess, just exactly as there is a great objection to leaving all kinds of work to be done by others. As in life, so in remembering, it is a fine art to know precisely what to get others to do for one, and precisely what to do for one's self. If one left nothing for the servants to do, one would have no time for many of the higher duties of life; and so, if one left nothing for the

Note-books to do, one would be spending time and exercising the memory unnecessarily.

But, even for very useful subjects which one really wishes to remember, Note-books are of the greatest value. A good time for using them is the last thing at night, when one can jot down all one has thought of during the day. At intervals the ideas should be revised and rearranged.

Note-books often are, though one does not realise it at first, a form of teaching. When one is writing Notes on Essays and Articles, one is putting one's own thoughts and ideas on to the paper. Whether they will be read by anyone else (besides the servant) one does not know, but at any rate it is quite certain that nothing clears the mind so much, nothing fixes an idea so definitely and firmly, as this or some other form of self-expression.

Of late years I have taken to small Cards rather than to Note-books. I do not write more than a single idea or Heading on each Card, and I always carry about a number of Cards with me. The ideas or Headings I put into the compartments of a special Card-holder, which is manufactured by Messrs. J. M'Hugh, of West 42nd Street, New York*. The advantages of Cards and the Card-holder over the Note-books, etc., and especially the ease with which the Cards can be added to and arranged, I have explained in 'How to Prepare Essays, etc.'

* And by Messrs. Stone & Son, 62 Berners Street, London, W.

PART VII.

THE *RAISONS D'ÊTRE*, AND THE ADVANTAGES OF GOOD METHODS AND SYSTEMS, WHEN RIGHTLY USED.

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SECTION XLI. REASONS AND JUSTIFICATIONS.

IN this Section I wish to give reasons for the various methods and Systems which I suggest, and to justify them. I shall take the methods and Systems one by one, and shall appeal to the reader's reason, asking him whether it is not rational to apply such and such a process for so useful a purpose as learning and remembering: that memory itself *is* of inestimable value, I have already explained in Section I.

Let me take the oft-repeated example to start with: the reader knows the shape of Italy because he knows that it is like a booted leg. I say to him, 'If you can remember Italy by this means, why should you not find the principle which makes Italy so easy to remember, and apply this principle far more widely?'

But, before I proceed to details, let me first ask a simple question: 'What is it that you *do* remember best?' If you go through a list of various things that are firmly fixed in your mind, you will find that it includes Advertisements; in fact it is part of the Advertiser's business to set things forth in such a way that great masses of people shall and must remember them. Therefore, I would say, study them and see what there is about them which

makes them so easy to remember, so impossible to forget : find the underlying principles and apply them to some more useful objects. When Jesus taught, he said 'From this sight learn a lesson'. The sights were mostly natural scenery, etc. To-day he would include the sights of City-life: he would teach many lessons from modern machinery, and not a few from modern Advertisements.

Ask yourself what it is that children remember best; make a list of the things, and find out the underlying principle; for instance, they remember very well anything which appeals to their eye, or to their sense of humour. Having found the various principles, apply them for the purpose of remembering various things; for, if children can learn by this means, surely grown-up people can learn by this means as well, or even better.

Find out why it is that we *do* remember certain things, and I think that you will arrive at the conclusion that all these methods and most of these Systems are founded not on anything artificial, but on principles that we do constantly use in daily life. These methods and Systems have been arrived at by these means; I have found the WHY and HOW of those things which masses of people *do* easily remember, I have classified these WHYS and HOWS into general Systems, and then I have tried to apply these general Systems elsewhere.

Recognising that every individual differs from

another in his powers and faculties, I have realised that the same method or System will not suit everybody. I have therefore suggested that after a fair trial each reader should choose for himself those which suit him individually ; but I must repeat that no one can possibly decide that any one of these methods or Systems will *not* suit him until he has tried it by *personal experience*. It is well known that many people assert that they would not like oysters. There is said to have been a certain man who insisted that oysters would never suit him ; one day he tried one, and that same day he managed to get through five dozen. At first he had no idea that they would suit him, but *experience* proved otherwise : and so it will be with many of these methods and Systems : no one has a right to say that they will *not* suit him or her, without having given them a fair trial. So I would say this : try all the methods and Systems before you reject *any*.

And now to the details. Of good health and of satisfactory conditions for learning I need not speak here : these two ways of helping the memory need no justification on my part. Nor need I defend my advice that the learner should concentrate his attention on a single thing to start with, whether it be a single method, or a single part of the method ; this must be done till that single thing becomes easy. Nor need I defend my statement that an interest in a subject aids the memory to an extraordinary

degree. 'The greater the interest, the greater the attention' is a commonplace in Psychology.

'Interest', by the way, has two senses, the first sense being—as we have seen—advantage: a thing has an interest for you because you will gain something—for yourself or for others or for both yourself and others—by attending to it. The second sense of 'interest' is the commoner: a thing which strikes you interests you, and hence comes the power of unexpected or epigrammatic sayings. Things which are humorous also interest you by tickling you and by attracting your attention: they force you to take an 'interest' in the subject.

The System of collecting Headings I hardly need justify either: it is sufficient to say that, unless you carefully and methodically make a collection of Headings, you probably will forget some, if not many.

Complete lists of Headings I have sufficiently explained in Section X. I need only say here that they are as useful, for the memory, as a bag full of all necessary things for travelling is useful when you travel. It is no objection to complete lists to say that they are too complete for the purpose; for the task of rejecting and discarding whatever you do not want is a very light one: it is so easy to select.

But I must say one word to justify these complete lists from a charge which might be brought against them; they might be accused of being a method of

'Cramming'. Anyone, however, who looks at one of the lists (e.g. in Section IV.) will agree with me that they are not facts which are crammed into the pupil's mind, but are more of the nature of *questions* which say to the reader, 'Do you know anything about this subject, and, if so, what do you know or think about it?' In fact they do very much what questions do in teaching. Imagine a lesson in a class, in which the master told the boys to write down what they had prepared: the result would be lamentable. What does the master actually do? He asks questions: he says 'What do you know about this and that?' and then he receives answers, and elicits what his learners know already. This is what the complete lists would do.

Again, I need not justify my recommendation to reject as much as possible, for it will save unnecessary trouble. If only ten things are to be remembered, to add another five gratuitously is not to be recommended.

Arrangement of Headings perhaps needs less excuse and apology than any other method. I refer to XII., where I show that the Headings in *some* lists can be arranged in such a way that each Heading will naturally lead on to the next.

The difference between the trouble of learning a list of Headings jotted down higgledy-piggledy, and the trouble of learning a list of carefully arranged Headings, is almost incredible; and the exercise of

arranging the Headings is one of the very best for the mental faculties.

In arranging the Headings one must be guided as far as possible by the relations between the ideas, such as cause and effect; so, if you find out the causes and effects, you will be helping the arrangement of the Headings considerably.

As to the method of mastering a rough outline before you consider details, it scarcely calls for remark. Before you can see what any part means, you have to understand the whole of which it forms a part: you cannot understand what the hand does unless you understand its connexion with the rest of the body, and especially the brain; besides this, I may mention another reason why a rough outline must precede the study of details, and that is, that only a few things can be mastered at one time, and to try to learn fifteen details at once is generally a hopeless task. But, when they are taken one by one, and when you have already got a general idea of the underlying principles, then it becomes easy to master each of them separately, although the details may be a little inaccurate or even very inaccurate. It is a pity, of course, but this must be put up with: the errors can easily be corrected afterwards.

To '*realise*' is one of the great secrets of memory, and of this again I need say little. That a clear picture of that which you wish to remember should be before you in your mind's eye, is absolutely

essential to the learning of nine things out of ten. It must be borne in mind that 'realising' can be done not only by the eye, but also by the reason. There are some who master things that are spoken or read by forming a definite picture; there are others who cannot (or rather, do not) realise things as pictures in the mind, though they can 'realise' them as 'ideas'. But in the latter case the eye-memory would be a great advantage. The cultivation of the eye-memory is justified by the fact that we realise things much better when we have seen a picture of them, for instance an illustration in a book, or a photo.

Of the realising of ideas I need only say here, in addition, that it is greatly helped by clear personal concrete language; this itself is too important a factor in life to need any words of mine to defend it.

If the general outline has been mastered, to study and analyse each Heading separately is of course a strictly scientific process; it would not be scientific to try to master all the Headings in a mass, but to master them one by one is a sound plan, as sound as Rome's plan of conquering her enemies one by one—and of using her conquered enemies as a means of conquering fresh enemies.

In Section XLII. I shall try to show how the use of parallels and comparisons and contrasts, for helping the understanding and the memory, lies at

the root of a good deal of Jesus' teaching in the New Testament.

We have many comparisons and contrasts ready for use in our minds; and they are not only ready for use, but they are also meant to be used; for a few of them see Section XVIII. If one wishes to justify any further the employment of comparisons as a means of learning and remembering, one need only mention the many metaphors which we constantly use. The whole of Language has been epigrammatically described as a storehouse of faded metaphors. This means that it is common to express ideas, not by a direct description of them, but by means of comparisons. In order to make people understand what they meant, speakers have had to compare the idea with something which was easier to understand: anger, for instance, they expressed by comparing it to a fire or to a storm. If this is borne in mind, the process of using analogies and contrasts, for purposes of remembering, ceases to be an ultra-artificial System, and is at once shown to be no more artificial than Language itself.

To teach others anything has always been considered one of the very best ways of learning it and of remembering it for one's self. This method again, then, I need not defend.

And *repetition* needs as little defence as teaching; as it is scientific to hit a nail again and again on the head if one wishes it to be driven securely

into a piece of wood, so it is scientific to repeat the idea again and again and again if one wishes it to be driven into the mind.

Of all methods of *Repetition* the *Résumé-method* is the very best. It was by making sure of what she had already won, before she proceeded to fresh conquests, that Rome became mistress of Italy and afterwards of the Mediterranean.

It is the Systems themselves which need most justification: the above methods scarcely need any: they are constantly neglected by 99 people out of 100, but theoretically they are perfectly sound. I shall now say a few words about the Systems.

The observation of useful points, such as of those which we noticed in the case of the Kings and Queens of England, saves a great deal of trouble and fixes things in the memory more securely. The points are there already, and to find them and to make sure of them encourages our power of observation and our power of ingenuity.

The 'Linking System' might, it is said, seem the most artificial system of all: when two words are (apparently) not connected with one another, it seems a very unnatural thing to find some third word which will connect the two; but, if there is an easy word which *will* do this, it surely is a very great mistake to refuse to use it.

However, let us spend a moment in finding out what these Link words really are, whether they are

connected with the other words, or whether the connexion is entirely 'artificial'. Consider the riddles and puns in Comic Papers, and ask yourself why it is that the ideas are connected with one another; why it is, for instance, that the person, who was told that a friend was suffering from Meloncauliflower and Haricot Veins, immediately knew that the friend was actually suffering from Melancholia and Varicose Veins; obviously the words were connected together because they *sounded alike*. Whether the connexion is artificial or not does not matter for our purpose; what I mean to emphasise is that it is there already, and, as it is there, it is hard to say why we should not utilise it.

The fact of it is that, when we examine into the matter, we see that the words in our minds are arranged in groups; we cannot help it, we do not consciously make the groups — like Topsy, they 'grow'. One thing is bound to suggest a number of things, as we have seen in the case of the green gooseberry (in XXIII.). The number 7 suggests the days of the week, and also the numbers 6 and 8, between which it comes; and 7 may suggest many other ideas. The 'Link-System' does not invent these groups and the connexion between them, but solely uses them; it uses that which it finds already existing, and uses this for a good purpose.

For the various other kinds of connexion, see XXIII. It might be that some of the Links which

I suggested in Section V. seemed very forced, especially the connexions by contrast; but if you think for a moment you will realise that 'white' is in your mind connected with 'black', that 'right' is connected with 'wrong', and so on. The history of Language shows that it is full of such connexions, and that they have influenced our speech more than we can possibly imagine.

As to the 'Localising' principle, it admits of less defence than most of the other Systems; but here again, if you have a room of which you know all the parts thoroughly, surely it seems a pity that you should not put this knowledge to some use. You remember where things are by thinking of the place where you put them; for instance, you say 'I put it on the mantelpiece'. The 'Localising' System is just the same, except that it is applied to ideas: you want to remember the idea of a King, let us say, and you put the idea of the King on the mantelpiece; you put the idea of a colony in a certain corner; now when you want to call to mind the king or the colony, you think of the mantelpiece or the corner; it is not so unscientific after all, is it? At any rate thousands have found it exceedingly useful.

Again, it might seem that it is an artificial system to learn anything by starting with something which is easier to remember, for instance, the learning of the Map of Greece by starting with the figure 5

(Diagram XXI.) and the palm of the hand (Diagram IX.); the unthinking critic says at once, 'This is most unnatural'. Yet, after all, a great amount of what we have learnt we have learnt by similar means. We learn by starting with what we know, and by means of that we acquire something fresh which was hitherto unknown. The technical term for this simple process is 'Apperception'. No teacher can afford to neglect this rule. The more one examines into the System of learning Italy by means of the booted leg, the more one sees that it is really scientific, because it not only helps one to learn about Italy, and to make the best use of information which otherwise would be unused, but it also often throws fresh light on various branches of knowledge. To use another technical term, if we learn about the growth of a State (History and Politics) by studying the growth of a plant or an animal (Natural History), each subject becomes clearer by being 'correlated' with the other.

The System of 'Substituting' is as old as Algebra. For purposes of convenience, it is usual to represent complicated things by a simple x , the reason being that x is an easier thing to grasp, a simpler thing to write: it saves the trouble of mentioning the whole every time; so we substitute x for the whole thing. The principle is that the thing which we substitute is easier to remember and easier to deal with than the thing for which we substitute it.

Of 'Initialising' we have already said enough. The initials H.R.H. are quite sufficient to call to our minds His Royal Highness; this being sufficient, we do not need more.

When the initials of various Headings are made to form some word (Cabal-System), then we are really connecting the different Headings together into a unity; this is something like tying faggots together into a single bundle instead of carrying them separately. It is true that the new word does not contain the whole of each Heading, but it contains quite enough to bring the whole Heading to our mind. The general principle is that in this case, instead of taking the whole Heading or word, we take its prominent part and learn that instead. Everything that we learn we learn in part: we do not as yet know the whole of anything. We 'learn' people by learning only a part of them, especially their faces; and, as we can remember people by a prominent part of them, so we can remember words by a prominent part of them, the prominent part being e.g. the initial, but sometimes the ending.

Blend-Words, of which Lewis Carroll was so fond, are quite natural, though they are mostly unconscious in everyday life; their general effect is not only clear but also striking: it impresses itself on the memory. The word *macinproof* suggests at once macintosh and waterproof. I have pointed out, on p. 322 foll. of the book on Essays, that most of our

Grammatical mistakes are a blend or mixture of two correct constructions, e.g. 'The subject is rarely handled in books, and still *less rarely* in the pulpit' is a blend of 'less commonly' + 'more rarely'. But how natural the blend sounds.

The use of absurdities for the purpose of remembering may seem strange at first, but think of what has been taught by means of Comic Papers, think what an educational factor 'Punch' has been to the English people, partly owing to its absurdities; had it been serious it would have taught very little, for most people would not have read it.

Rhythm helps the memory, as we see in the case of advertisements, and, since they are a fine means of remembering, it is not unscientific to use these verses for a good object. Rhythm, again, appeals to nearly every one, including children, barbarous tribes, and many animals; it therefore can be justified as a means of remembering, because it is something which we already have and which we now turn to a good purpose; the same will apply to music, and also to alliterations.

The defence of Epigrams as a means of remembering is that they are very striking, and compact, and that they emphasise one idea at a time: for all these three reasons they are specially adapted for leaving an impression on the mind.

Last of all, the suggestion that the different methods and Systems should be used alternately or

in combination is perfectly sound. As to the alternative use, some 'Systems' suit some people and some subjects *par excellence*; and, as to the use of combinations, where it is important to remember a thing, it is obviously wise to have two strings to one's bow, and to use two means rather than one alone.

The principles of practice which I have laid down in XXXIX. are somewhat new, but I think that nothing can be said against them: to start with doing a part of a thing at a time, and to do that part correctly, slowly, consciously, and repeatedly, till it becomes sub-conscious and self-working, and then to proceed to the second part, this cannot but be scientific. Practice alone can make perfect, but it must be practice of the right kind. And my System is not mere practice: it is practice of the right kind.

Let me now sum up the justifications for that which may seem most open to objection in these methods and Systems.

Throughout, I have tried not to bring in new materials, but to use materials which are already in the mind, and to apply for a serviceable purpose what would otherwise lie unused.

And the same with the faculties—faculties which are already lying dormant in the mind, little used or unused or even misused, *these* I have tried to apply for a really serviceable purpose.

Of what use are our long lists of foreign vocabu-

laries, and of what use are our thousands of quite casual associations? As it is, you must admit that they are lying idle; you must also admit that to be able to learn and to remember by means of them would be a great blessing.

My methods and Systems endeavour to show you how to use what would otherwise be unused, and to use it for purposes which might otherwise be unfulfilled.

Let me add one more word. It can be nothing else but *reasonable and scientific* to get a clear impression of whatever you wish to remember, and to repeat that impression, and to connect together and link together into a chain Headings which would otherwise be indistinct and isolated; it cannot but be reasonable and scientific to remember the whole by means of a prominent part of it, provided that the prominent part is sufficient to recall the whole.

SECTION XLII. A PASSAGE FROM THE NEW TESTAMENT.

TO prove that these methods which I have suggested above are not unscientific, I wish to give a quotation from the Sermon on the Mount to show that the greatest of teachers employed at any rate a number of them. The reader is advised to read through the passage first by himself, and to work out for himself what principles and methods it illustrates. I shall quote the Revised Version Translation, referring, however, to a simpler English version which Mr. Grant Richards (of Henrietta Street, Covent Garden) has published. The passage only contains 13 verses, and the reader must not expect to find every principle illustrated in it; it is from Matthew vii. (15 to 27).

“Beware of false prophets, which come to you in sheep’s clothing, but inwardly are ravening wolves. By their fruits ye shall know them. Do men gather grapes of thorns, or figs of thistles? Even so every good tree bringeth forth good fruit; but the corrupt tree bringeth forth evil fruit. A good tree cannot bring forth evil fruit, neither can a corrupt tree bring forth good fruit. Every tree that bringeth not forth good fruit is hewn down, and cast into the fire.

Therefore by their fruits ye shall know them. Not every one that saith unto me, Lord, Lord, shall enter into the kingdom of heaven; but he that doeth the will of my Father which is in heaven. Many will say to me in that day, Lord, Lord, did we not prophesy by thy name, and by thy name cast out devils, and by thy name do many mighty works? And then will I profess unto them, I never knew you: depart from me, ye that work iniquity. Every one therefore which heareth these words of mine, and doeth them, shall be likened unto a wise man, which built his house upon the rock: and the rain descended, and the floods came, and the winds blew, and beat upon that house; and it fell not: for it was founded upon the rock. And every one that heareth these words of mine, and doeth them not, shall be likened unto a foolish man, which built his house upon the sand: and the rain descended, and the floods came, and the winds blew, and smote upon that house; and it fell: and great was the fall thereof."

I will content myself here with naming some of the methods which are employed in this teaching: for further details, see the book on Essays (p. 211 foll.), and 'The Teaching of Jesus To-day' (Richards).

First of all the word 'Beware' aroused the *interest* of the hearers: it woke them up, as it were.

Secondly, the *comparisons* appealed to the mind; they not only helped it to understand and *realise*

the real meaning, but they also helped it to '*repeat*' that meaning (see XVII.). About good and bad things the people knew comparatively little, but they understood what was meant by a wolf and a sheep, by grapes and thorns and figs and thistles; they understood what was meant by a fruit-tree, or by houses built on rock or on sand.

These same instances also include *contrasts*: e.g. the house on the rock was contrasted with the house on sand; by this means the ideas were clearly and firmly impressed on the minds of the listeners, who learnt and remembered because the teacher started with something which was familiar to them already (cp. XXV.).

Notice also the *repetitions*—not only direct repetitions, but practical repetitions also, where the same idea is expressed again and again by means of different illustrations.

Notice again the *realising*: there is no abstract language like "the assertion of previous great acts will prove absolutely unavailing"; no, there is a definite clear picture. Many people will say certain things to him, and then he will say certain things to *them*: before the listeners there is set a definite scene which they can easily imagine in their mind's eye.

For the importance of this picture-painting in the mind, see XV., and observe here also the vividness of the pictures of the two houses; notice how each

detail helps to make the impression of the whole fact stronger and clearer.

As to rhythm, there is hardly a rhythm of sound in the original Greek, but there is what we may call a *rhythm* of sense; for no one can fail to observe how perfectly the last two sentences balance one another; every detail about the house on the sand has, to balance it, a corresponding detail about the house on the rock.

As to the *arrangement*, at first one might be inclined to say that there is no arrangement at all, that the whole thing was put into no order. But, when one looks more closely, one finds that there is a strictly scientific arrangement, the best for its particular purpose.

The fact of it is that, in this section of the Sermon on the Mount, only one Heading is taken, the Heading being that the really good are not those of pious appearance, or who say pious things, or who do great acts, but those who are good in their inward nature, and therefore in appearance and word and act as well; the arrangement is therefore perfect, for it is specially fitted for emphasising this great idea: the arrangement has, as its special object, that which we saw was absolutely vital if a thing was to be properly learned and remembered: the reader will guess at once that the purpose was to *concentrate and focus the attention* of the thousands upon a single idea at a time.

SECTION XLIII. ADVANTAGES OF REMEMBERING, ESPECIALLY BY MEANS OF THE SYSTEMS.

IN this Section I wish to mention a few of the advantages not only of having a good memory, but also of cultivating the memory according to these particular methods and Systems; it must be understood that the advantages will only come *if* the methods and Systems are properly carried out.

Throughout it must be borne in mind that these advantages do not stop at any particular point; for instance, if the memory is good for the purpose of learning Geography, then one must also bear in mind that the learning of Geography is itself good for many other purposes, for business and for pleasure and for the study of history. Each good effect is sure to become, in its own turn, a cause of good effects.

The chief advantages of these methods and Systems are that they help people to develop gradually, consciously, and systematically that skill which a genius employs by an unconscious kind of instinct. To learn anything in this way is not only better for the learner himself, but is also better for those whom he may think of teaching. If he understands the process, and has been through it

himself, he is far more likely to be able to explain it to others and to sympathise with their difficulties ; and the practice with these Systems will be useful for forming the habit of practice in general. Proper practice at one thing helps practice at any other thing.

In considering the advantages of remembering, one must also emphasise the disadvantages of forgetting ; it obviously is a great disadvantage to forget the names and addresses of people, to forget engagements, to cut one's friends, and so on : one may excuse one's self by saying that it has been quite unintentional, but all the same the disadvantage remains. Thousands of pounds or dollars may depend on a single slip of the memory.

We may now turn to the general advantages, beginning with pleasure, for which men and women have ever been wont to make such great sacrifices. How much of the pleasure of life is due to memory one seldom realises. The memory of things which we have heard or seen or read, of things which we have experienced, and of things which we have done, all these are among the very highest pleasures which life offers.

Besides giving pleasure, memory can give useful work for idle moments : while walking or travelling or waiting, you can always be developing your memory in some way or another ; you can always be seeing and observing, you can always be listening

and observing, you can be classifying Headings and you can be linking Headings together.

Moreover, the practice of these various methods and Systems during your spare time will give a wonderful interest to thousands of things which otherwise would seem trivial and dull.

These methods and Systems will also enable you to make a good use of many things which you know already, besides helping you to acquire fresh knowledge. As they will enable you to remember a far larger number of things than you could possibly remember otherwise, with greater security, in less time, and with less effort than would be needed otherwise, they will also afford you more time and more opportunities for self-culture or for physical recreation.

The certainty and the permanence of the memory for a number of things will be bound to give you a business-like self-confidence and self-sufficiency, and will also by degrees develop in you the *habit* of remembering. The habit of answering letters by return, the habit of making puns, the habit of seeing the humorous side of life, all these are well known, but little attention is generally called to the habit of a good memory. If you adopt these methods and Systems, you will quite get out of the way of forgetting things; you will acquire a facility and a tendency to remember, and, after a time, if you use the methods and Systems properly, you will get to

remember things quite automatically and subconsciously. And the amount of worry and self-distrust which a good memory will save you is beyond all reckoning.

After you have acquired skill in arranging your Headings clearly and in good order, and after you have cultivated your power of using these Methods and Systems easily, you will find that you will be saving a great amount of energy every day. The work of actually committing names and lists to memory will be given over to your lower faculties, for instance, your faculty of association of time and place (see XXIII.), or your faculty for remembering Rhymes and Rhythms.

The process will be very rapid, the saving of time will also be the saving of money, you will not have to re-learn what you have once learned, and thus you will be enabled to give a great deal of time to those pursuits which you like best, or which are best for you.

Again, you will have added another interest to life, you will have added another 'hobby': having worked out these methods and Systems for yourself, you will henceforth study with great care your own mental workings, you will now know more of the process by which you learn and remember, and you will know how to improve and utilise various powers in yourself and in others.

There will be no mere absorbing of methods and

Systems invented by others ; for you will be forming your own Links and your own Rhymes : your work will be good for you because you will be doing it by yourself and for yourself and others. New lines of research will open before you, and there is every chance of your finding out something which may be of great service towards helping others to learn and to remember.

The practice of memory will be morally good for you : it will discipline you. And you will find that the tedious kinds of practice can be dispensed with before very long. If you lay firm foundations early in life, you will have prepared yourself for whatever occupation may be yours in after-life. Let me emphasise this point here, let me ask what it is that we are likely to be doing in after-life. We shall certainly be speaking, conversing, reflecting, judging, writing, acting ; every one of these processes is based on memory. There is not one of them which will not be the better done if the memory itself be improved.

Let me take a more concrete instance, let me take the day of a business-man. He has to do certain things in a certain order—he has to pay certain calls, to write certain letters ; then he has to take a journey by train at a certain time, to walk by a certain route to a certain place ; here he is to be introduced to two men, whom it is important that he should remember ; he has to remember each man's name

and some characteristic in his appearance. When he meets these men it is important that he should have clearly in his mind the Headings of that about which he means to talk. In the evening, not only will he have to talk at dinner, but perhaps after dinner he will have to make a speech, and he does not wish to have to refer to any written notes during his speech: by nature, however, he may be nervous and subject to lapses of memory. Then, again, in the course of the day various ideas, which he wishes to remember, may occur to him. Now supposing he has studied and practised the methods and Systems, all these various things will be done by him without the slightest effort. To remember all these will be quite as easy to him as eating or drinking, and almost as easy as breathing. If you imagine yourself in the position of such a man when he has never cultivated his memory at all, you will then see how terribly he is handicapped in life, and how great is the difference between a good memory and a bad one.

SECTION XLIV. ADVANTAGES FOR SPECIAL PURPOSES AND SUBJECTS.

NOT only is the possession of a good memory, and its cultivation on these lines, of very great general utility, but it also is or may be a wonderful help for certain special purposes. I will begin with a few details.

It is quite possible that sleeplessness may be avoided, if the memory of certain things were called into requisition: one could rehearse in imagination certain actions or certain scenes, choosing especially those which would have a soothing effect. I believe that it would be even possible to practise games and athletics in imagination and to improve one's self by recalling the various actions in one's memory.

When no paper or pencil is handy, then a good memory is of exceptional value, for example, when you are introduced to people and you wish to remember some characteristic of their face together with their name. If you have practised e.g. the Link-System, this will not entail the slightest difficulty.

Names and addresses, appointments, birthdays, names of books and their authors, names of hotels and streets, all these can be mastered with the

greatest ease and the greatest certainty and the greatest permanence ; again, if it is necessary, long lists of towns, of stations on certain lines, of presents (for instance of useful presents for weddings, or birthdays, or boys), of things which one has to buy, of sights which one has to see, in fact all kinds of lists which one so often uses, can be remembered without any trouble at all.

To be able to keep fixed in one's mind certain lists, especially lists of things in a fixed order, and of things which one wishes to remember both backwards and forwards, this is surely a great convenience and a great gain. Take, for example, the things which one has to learn in the case of what is considered 'a full education', think of the huge lists in History, Geography, Medical Science, the Sciences generally, Literature, Architecture, Languages, Philosophy, and Art : the process of acquiring such lists is perhaps the greatest drudgery in the whole of education. But, if the methods and Systems were properly practised beforehand, the difficulty would have almost entirely disappeared, and the actual process of learning the lists would have become quite interesting.

In the various Sections in this book, I have tried to show how the memory for numbers and dates or Maps or Plans (for Geography, etc.) can all be improved. I have tried to show that anyone who studies carefully the reasons and the principles of

these methods and Systems has on the way learnt a considerable amount about Psychology, Philology, and Etymology; he who has practised earnestly will have learnt how to paraphrase and will have gained a very great command of language; he will have acquired a certain power of writing (perhaps of writing Poetry); he will be able to make 'speeches' of various kinds, whether they be sermons, or lectures, or speeches at debates, or simply conversational; he will have improved his power of writing, whether he wishes to write articles and contributions to papers, or only letters.

He will have a number of things to think of while he is walking or travelling, and anything which he does think of he will be able to remember without writing it down. He will even have improved his power of translating anything into a foreign language.

One very curious point about the Memory-Systems is that they are equally valuable whether the thing which we wish to remember is so *important* that we wish to remember it absolutely and for ever, or whether it is so *unimportant* that we wish to remember it perhaps only for a day. For both of these classes of things the Memory-Systems are equally applicable. Whether you wish to learn something for ever, or whether you do not wish to remember it, let us say, beyond some Examination, the Memory-Systems, or the combination of the

Memory-Systems, will be your quickest and your surest method.

As I have shown frequently, the Methods and Systems will apply to the commonest incidents of everyday life: let me take another day's work. You have to call on Jones at noon and then to call on Robinson, then to buy a tie or order a book, to write a letter, to meet a friend, to do some special Exercises, to prepare a conversation (few people ever think of preparing conversation, and yet it is surely worth while), and then to look out a train. Now what is the connexion between all these things? There is no connexion whatever, except that *you* have to do them all *here to-day*; and yet you wish to remember them; I do not think that there can be any better way of remembering them than the Memory-Systems.

There is scarcely any learned work on memory which gives any practical assistance for a common day's work like this, though the methods and Systems which I suggest (such as Initialising and Rhymes) demand a considerable amount of practice beforehand; but even during the drudgery of practice you must never forget that on the way you are not only improving your intellectual and moral faculties, but you may also be acquiring a great deal of useful information.

SECTION XLV. ADVANTAGES FOR SPECIAL CLASSES.

THERE are some special classes for which I hope that these methods and Systems will be a very great help. For learners generally, not merely those who are learning with a view to some special examination, but for those who wish to acquire any information of any kind, and of course especially for examinees (so much of whose future will depend on their doing good Exams.), for teachers also and examiners—for all these the methods and Systems might be most serviceable.

All speakers, whether they be clergymen, or public speakers, or lecturers, or debaters, or even merely conversationalists, will find that they will succeed far better if they attend to the cultivation of their memory. If before they speak they get their Headings clear, and arranged in the right order, and if they then work on the lines I suggest, they will soon be able to speak with absolute confidence, without having to refer to any notes at all. At first, of course, they may have the notes by their side, ready to refer to in case of emergency. This practice with the methods and Systems will also help writers, whether they be authors or

essayists, or whether they be merely letter-writers : it will even help those who enter for Missing-Word Competitions !

The practice in arranging and in realising (see XII., XV.) will be of value for poets, for artists, and for scientific men. And the methods of learning lists will be of value not only for scientific men, but also for doctors and lawyers, who often have to keep a list of important cases at their fingers' ends.

Advertisers, if they would succeed, must find what it is that people learn most easily : this is the very essence of their business ; and this book might possibly teach them one or two things of which they had not thought before.

For business-men it is especially important to save as much time as possible and to be absolutely certain of never missing an engagement : they too might be helped.

Players of Games like Chess and Whist need an exceptionally strong memory. Soldiers and sailors might memorise drill movements and various things by the means I suggest ; and I may conclude the list of classes with the mention of inventors (for all inventions depend very largely upon a good and ready memory), and of the absent-minded : the numbers of things which are daily sent to the Missing Property Offices throughout the United Kingdom, things which have been left behind and

forgotten at various places, and which represent only a part of the things which have actually been left behind, these of themselves are quite a sufficient proof that there are millions whose memory sadly needs development and culture.



SECTION XLVI. ADVANTAGES FOR SPECIAL POWERS AND FACULTIES.

THE part that memory plays in the development of our various powers and faculties is apt to be overlooked, as I have already shown in Section I. For the proof of the statement that many of our faculties are developed but misused, that others are only partly developed, and that others are absolutely undeveloped, I refer to what I have already said on the subject. But as a rule we do not realise that this has anything to do with our memory.

Memory, however, is intimately associated with these faculties; in fact it is no exaggeration to say that without memory these faculties would be non-existent. Memory supplies our imagination, our power of reasoning, our power of reproducing, and our power of inventing. Take away memory and you take away these powers.

I venture to assert that if these methods and Systems and others (which the reader can find for himself) were carefully studied and put into practice, the development of the will and of the intellect and of morality would be most extraordinary.

A careful study of the methods and Systems that

improve the faculty of observation (a faculty which is so terribly neglected in our ordinary education), the faculty of association, the faculty of working out causes and effects, the faculty of picture-painting in the mind (a faculty I often denote by the word 'realising'), the faculty of classifying things and putting them in good order, the faculty of illustrating and enforcing ideas by suitable analogies, or by contrasts, the habit of sympathy, which can only result from a wide knowledge and a retentive memory, the habit of being thoughtful about others, all these must depend largely on the degree to which the memory is *consciously* cultivated. To take this last point, thoughtfulness about others: the habit of thinking out things beforehand would lead one to say to one's self, before paying a call, 'I am going to see So-and-so: what shall I talk about?' One would instinctively think out beforehand what would interest him, and one would impress this upon one's memory: the difference in the effect which one would produce would be surprising.

The faculty of defining a thing clearly, the faculty of connecting or linking one thing to another, which I show to be helped by making rhymes; the faculty of teaching and explaining to others, the glorious faculty of self-correction, the power of practice, the power of inventing (which means combining in a new way things which we know

and remember)—all these cannot but be improved by memory-culture.

So far I have spoken only of the higher mind : to the list one might perhaps add self-confidence, which can partly arise from the certainty of remembering. But this is not nearly the whole effect of a conscious and careful improvement of the memory.

Our faculties were made to be used well, and we do not use them well by nature : we were meant to think out how we ought to use each thing that has been given us, and we were not meant to go on using things as people around us are in the habit of using them, that is to say, in the customary, thoughtless, slipshod way ; we were meant to say to ourselves, ' Here is a gift, what ought I to do with it ? '

The unscientific use of our lower faculties is one of the most deplorable signs, not only of this age, but of all ages.

I will not go into details here, but will only mention a few other things that we are wont to remember (and to remember very insecurely and inadequately) by a method which is not only unscientific, but also extremely tedious and unsatisfactory in every way, if indeed it can be called a method at all. The way in which we are wont to remember faces, names, figures, numbers, pieces of poetry, and foreign words is lamentable : the effort expended

in the process in prodigious; and the worst of it is that by learning such things in such a way we do not develop our minds in the very least. The labour is as desperately mechanical and degrading as anything can be.

But all the time that we are learning these things in the hardest possible way, we have left, unemployed, certain faculties which could do the work infinitely better and more safely, infinitely quicker, and with infinitely less effort, faculties which after a time could be made to do the work by themselves quite automatically.

We have the faculty of being impressed by Rhymes and Rhythms, and of receiving into our minds, whether we wish for them or not, a number of trivial details, things associated together by time and place (see XXIII.). These faculties and these materials and many others stay in our minds absolutely unused, and yet I have shown that the faculties and the materials (see IV. and V.) admit of being used with the most satisfactory results.

If my suggestions were adopted, not only would the higher faculties be improved, but others also, such as learning by rote, would be relieved of a vast amount of tedious labour, and new faculties would be developed, which would do the work more satisfactorily, and would use up materials which we already possess.

In conclusion, I must remind the reader that each

one of us has within himself only a certain amount of mental energy: that he has a vast number of things which he ought to remember, and only a certain amount of energy which he can put forth in the process of remembering; I would appeal to his personal experience to prove that the ordinary methods of learning and remembering things exhausts an extraordinary amount of effort. I think this will be readily granted. And I now ask the reader to try whether such methods and Systems as I suggest would not give far more excellent results with a far smaller expenditure of effort.

PART VIII.

OBJECTIONS ANTICIPATED AND ANSWERED: WITH A REFERENCE TO SOME USEFUL BOOKS.

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SECTION XLVII. OBJECTIONS ANTICIPATED AND ANSWERED.

SUPPOSING any teacher were to say to his pupils, "The names of the CABAL ministers in the reign of Charles the Second were Clifford, Ashley, Buckingham, Arlington, Lauderdale. You see that the word CABAL is formed of the first letters of these five names, but—you must not remember these five names by this means", we should naturally ask, "Why not, if this makes the task easier?" But as a matter of fact no teacher but the grossest pedant would say this to his pupils.

Yet if—using a very very old 'Initialising' example—I advised people to learn the right order of the colours, Red Yellow Green Blue Violet, by the word RYGBU, and if I suggested to them, as a link between COLOURS and RYGBU, the word Rainbow, so as to make a strong and firm chain (COLOURS—rainbow—RYGBU), there are many who would drop on me and say 'No : here we draw the line. This is a mere trick'.

Supposing I ask them, in reply, whether this is not *an extension of the principle* of CABAL, of the principle by which we let Initials stand for whole words or names (e.g. V.C., K.C.B., S.P.C.K., B.E.O.P., etc.), whether it is not at any rate a very *easy* way, and whether it is not at any rate a very safe and *sure* way, have they a leg to stand upon?

Supposing I were to go a step further—supposing I were to say that we never remember the *whole* of any object that we see : at the most we usually remember only one or two more or less *prominent parts*, and that the remembering of Yellow by the letter Y is the remembering of a thing by means of one prominent part, does not their whole objection fall to the ground?

The fact of it is that there still survives a large class of

people who lay down a rule that, if a thing is learnt in an *easy or pleasant* way, it cannot be a part of Education. Their *ideal* of education is a list of the Kings and Prophets of the Old Testament to be learnt "by heart" in chronological order! CABAL, they say, may pass: some initials, they say, may be allowed to stand for whole words; but beyond these—no. Thus far shalt thou go, and no further.

This class, which is unfortunately very large, and very powerful in the land, may be stigmatised as narrow pedants: the fact of it is that they lay upon the shoulders of learners tasks grievous to be borne, weights difficult to hold, and all because they themselves have not troubled to observe *the actual processes* by which we *do* remember things, and, above all, those by which we remember them best. They have had Manuals of Psychology, but they have not known them, or else they have scorned to use what they have known; they have had the Science of Philology to show them how we remember words, but they have failed to turn it to account; they might have noticed the ways of the children about them, but they have not done so.

They have preferred to perform the function of a brick wall opposed to the progress of simple and sure and rapid and pleasant methods of learning and of remembering.

And to what extent have they actually *succeeded in improving* the memories and the minds of those for whom they have laid down these severe Laws of Prohibition? By their fruits ye shall know them: they have failed miserably.

Have they managed to teach people to remember simply, surely, rapidly, pleasantly, and with marked development of the faculties of arranging, of reasoning, and so on? Very very little. While they have done their best to stop up every short cut, they have made even the long way round, which is often the best way after all, as rough and unreliable and slow and dull as any journey well could be.

But let me cease from abusing them: let me turn and answer not only them, but others who really do conscientiously want to have their objections answered—who have a genuine desire to know whether their scruples against 'learning how to remember' are justifiable or not.

Among the *unanswerable objections* to many Books on Memory, including Books on Mnemonic Systems, the following suggest themselves as the most important:—

(a) The masses of technical terms. I gave a specimen above, and I give another here: "The nerve cells of our cerebral hemispheres are so completely dependent, for that excitation of force which constitutes intellectual action, upon the stimuli conveyed to them through the sensory ganglia from the organs of sense, as are those of our spinal cord upon the stimuli conveyed to them either from the superior nerve centres or from the peripheral irritation of an afferent nerve." The meaning may be quite correct, and, to a specialist, perfectly clear, but it is such language as this that has helped to *prevent* ordinary people from studying memory at all. Unfortunately, 'against such there is no Law'.

The average reader who wishes to understand the Physiology of the subject in its outlines, might almost as well read a page of a Hebrew Lexicon. The variety in the type would at least be a greater rest for the eye.

(b) Some Systems have been for the *ear-memory* alone: the Loissette System insists on it too much, while for the *eye-memory* he gives too little exercise. Geography is not, as a rule, to be learnt by the ear so much as by the eye: and

the eye should be used for *sights* and *pictures* more than for words.

(c) Other Systems do the reverse: they insist too much, e.g., on the eye-memory, the memory for sights seen or imagined, or—still worse—the memory for words or letters seen or imagined.

Both of these one-sided Systems, too, are often apt to insist on the remembering of *words* (sounds or letters), rather than on the previous understanding and realising of the *ideas* for which the words stand.

(d) Few books insist enough, indeed few insist at all, first, that the individual learner shall *choose* the System or Systems that suit *him* best; secondly, that he shall choose the System or Systems that suit each particular *subject* best; thirdly, that he shall at least give *other Systems a fair trial*, in case he may be able, after practice, to use *them* also.

(e) Many books are crammed full of *details*, and begin with *abstract* and general statements before they have given clear concrete examples. The subject is hard, very hard, and at the outset should come at any rate a simple *outline*, and, in nearly every case, at least one *concrete instance*. Details need not be excluded, but they should be kept until the outlines and instances have been given.

(f) I might mention a number of faults in individual Systems, but one must suffice. In the

Link-System, supposing we take the chain (see above) 'Colours—Rainbow—RYGBU', the word Rainbow may belong to another chain as well. Some words may belong to several chains, and confusion may arise: to change the metaphor—one may 'take the wrong turning at the cross-roads'. But there is no real need to use the same word many times, and in actual practice (as opposed to theory) the confusion is seldom experienced.

Let me repeat once more that there are bad Memory-Systems, and that there are abuses of good Memory-Systems: many objections have been made that cannot be refuted. Such bad Systems, and such abuses of good Systems, are to be condemned.

Let me also add that my book is not *merely* a collection of Memory-Systems: it includes them, but it also shows how a great many things *can* be learnt and remembered, and *should* be learnt and remembered, without any artificial System at all. •

Let me now proceed to the objections themselves, which I will put into the words of the objectors. I shall be very grateful if any of my readers will kindly add to this list.

1. "*There are many things, which Memory-Systems help one to remember, but which are not worth learning or remembering at all.*"

Perfectly right: but this has nothing to do with me. I suppose you to come to me, saying, 'I want to learn and remember *so-and-so*': all that I do is to say, 'Try *this* method, or *this*': I do not profess to say to you, 'Learn and remember *anything* in the wide wide world'. I am not choosing *what* you are to learn and remember, but only *how* you may learn and remember any things which *you yourself choose*. You are responsible for the *materials*, I—to some extent—for the fixing and securing of them.

2. '*Surely there is only one way of learning and remembering things: that is, by seeing the causes and effects and other connexions.*'

For learning and remembering *certain* subjects, such as, for instance, some of the causes of England's success (cp. IV.), this *is one* of the best ways; and even here there are other ways as well which few of us can afford to neglect. But how about a day's work—I want to remember to do certain things *in a certain order*, and to forget none of them. I want to write a letter to Jones, to call on Brown, to mention to him five absolutely distinct things (without having to look at my Mems), to buy a ticket for the theatre, and so on. Or I have to go to a dinner-party, and I want to mention 8 things, 3 to A, 2 to B, 3 to C. Now how does your plan come in here? What is the connexion between Jones, Brown, the

things I want to say to Brown, the theatre ticket, and the rest? *I* am perhaps the only connexion. They may be isolated items, only connected together *to-day* because *I* have to do them *here*. To-day they are not connected for any one else. To-morrow and elsewhere they will not be connected together at all, even for me.

And, after all, these are the commonest things in life. Mr. H. has a red nose and lives at 3 St. J—— Terrace; the L——'s dinner-party is on the 30th; and so on.

It is here that we really need something beyond 'cause and effect'!

3. '*The ways that most people use now must be the best ways of learning and remembering: it is not likely that a better way would exist and would not be used, when there are so many old and clever people everywhere.*'

Let me recommend a study of the progress of the World, for example, of 'inventions'. Did not people say just the same before Watt lived, before every inventor lived? Is it likely that we know *everything* yet? Believe me, you will live but a poor life if you always trust to *custom* as the safest guide. If you want to see the extreme of this policy, look at the Chinese!

The fact of it is, my dear reader, that many things are going on now which have no proper place in our age: they belong rather to the Middle Ages

or to the times before them. They have survived, but they are not good: still less are they the best possible. And the best possible, the very best possible, is that for which we are meant to search. For a long time slavery was customary—but it was not good; for a long time Bath-rooms were practically unknown in English Private-houses, but their absence was not good. I will not weary you; it is enough to say that ‘customary’ is not the same as ‘the best’.

4. ‘*The natural way of remembering must surely be the best*’ is a somewhat similar objection.

This is so: it *is* the best *if* the natural way is *also* the right way; but generally it is *not* the right way.

I once asked a well-known Lawn Tennis player what was the best way of gripping the racket. ‘Oh’, he said, ‘the natural way is the best’. ‘It may be the best for you’, I thought, for you “naturally” grip the racket *rightly*: ‘but how about those who “naturally” grip the racket wrongly?’

No: it is not every one who does everything right by the light of nature, instinctively. Neither in learning and remembering, nor in virtue, nor in anything else in this world, can we expect that we can get on as well as we should without *correction*—self-correction, to a certain extent; but do not trust to that alone. For you cannot be sure of standing

altogether outside yourself and of judging yourself in an unbiassed way from a stranger's point of view. No: you must ever be prepared to learn from others, and must ever be prepared to *mistrust your own ways of doing things*.

Akin to this objection is the following:—

'Each has his or her own little way of learning and remembering, and that way is best for him or her.'

But even this little way may not be quite perfect, and the addition of other ways (especially according to the *subject*) may be of great value. At any rate, it will not be waste of time to *try* the other ways. It is probable that, if you were to ask for and get a *candid* opinion, your friends would be only too pleased to tell you that your memory was not absolutely infallible.

Each has his 'own little way' of holding a cricket-bat, of holding a violin-bow, of playing the piano: to get out of it, and to acquire a sounder and better way, may at first seem clumsy—it may involve even a backward movement. But for all that it may be the only possible means of improvement, at least for the average individual.

5. *'Memory-Systems, for instance the System of remembering by means of Rhymes, are degrading.'*

If you mean 'degrading to the Rhymes', then you mean, I suppose, that it is degrading a thing to make it serve a useful purpose: for, if it helps the

memory, it may be made to serve a useful purpose. But, because Rhymes are used in beautiful Poetry, that is no reason why they should not *also* be used as a means of remembering. Because printing is used for Theological discussions, that is no reason why it should not be used for Cookery Books.

But, if you mean that it is degrading for *you*, then you mean, I suppose, that it is degrading for you to use the faculty of remembering well by means of Rhymes (if, of course, you *have* that faculty) for the purpose of remembering well.

Once admit the *importance* of remembering certain things *surely*, and once admit that Rhymes are a help towards this (if they are, in *your* case), and you at once have the right, if not the duty, of using them. Rhymes, like the Sabbath, were made for man.

It was a great poet, moreover, who said that the chief function of Rhymes was not to make thoughts beautiful—their effect was often quite the reverse—but to help them to be remembered. I cannot recall his exact words.

Lastly, there are some ‘artificial’ Systems (to say nothing of the methods which are not ‘artificial’ Systems at all) which positively develop certain mental faculties, such as that of picture-painting in the mind: see further Section XLVI.

‘*Memory-Systems are all “low” and degrading*’ is a still more sweeping statement than the above, for

there are *many* Memory-Systems, 'and all have not the same office'. You cannot bundle up into a great pile such Systems as the Linking-System (XXIII.), the Localising-System (XXIV.), the connecting with things easier to remember (XXV.), the Initialising-System (XXVII.), the Rhyme- or the Rhythm- System (XXX., XXXI.), and the others. They must be treated separately, lest perchance you 'burn the wheat with the tares'. The 'Connecting-System', for example, has its foundations deeply laid in the mind itself—its principle is one without which we can hardly expect to learn or to teach anything at all.

To treat as if they were on the same level a right use of this System and a wrong use of, let us say, the Substituting-System for dates (XXVI.), is a gross piece of unfairness, to say the least of it.

If these Systems, or some of them, save time which we can thus devote to the use of our higher faculties, such as the reason, then they are not more 'degrading' than it would be to travel by train instead of by coach, or to send messages by post or telegraph instead of by a personal visit.

6. '*Memory-Systems weaken the memory.*'

This is easy to assert, and it is easy to prove that a *misuse* of *some* Memory-Systems may do much harm. But the truth is that personal experience alone can decide for certain: and the personal experience of the great majority of those who have

tried *good Systems* (such as the Loisettes-System) *fairly*, has been the very reverse of this. The Memory has been wonderfully strengthened.

No one would claim that the methods which I have suggested in Section VI. foll. could possibly weaken (or fail to improve) the memory; but it might be thought that, for instance, to link together colours and RYGBU (above) by the word Rainbow might weaken the power of remembering any two words together. It might be said that, if you never jump a stream but always cross it by easy stepping-stones, you will soon altogether lose your power of jumping it.

This comparison, however, does not hold good of mental processes generally: rather, by going over the steps carefully again and again (see XXI.), one gradually—strange as it may seem—acquires the power of *doing without the steps*. There are numbers who had a bad memory when they began the Loisettes-System, but who now have a capital memory, and are hardly *conscious* of the *process* of linking any two words together; somewhat as an experienced Rowing-man is hardly or not at all conscious that his stroke can be analysed into a large number of parts. The two words are tied together as quickly as a piece is played on the Piano—the whole thing has come to be done easily, we seem scarcely any longer to know how.

And, after all, there is another question worth

asking, viz. 'How *do* we remember certain things?' Find out this, and you will see that some Memory-Systems are really little more than a description of what is actually going on in your mind again and again when you remember: the System would have you do purposely and practise thoroughly and apply widely that which you are already doing in a few cases, but are only doing in a very slipshod manner.

Many have learnt to bicycle by getting some one to hold up the bicycle *at first*: the power of keeping the balance has usually been strengthened rather than weakened by the holding hand.

7. '*Memory-Systems are apt to become a mere substitute for honest learning.*'

Let me say as a former master at a Public School, and as an Honours Coach, with an unusually wide experience, at Cambridge, that, with *most* boys, the thousands of hours of 'honest learning' at our Public Schools, at any rate, have been most lamentably barren of real mental development, or even of useful ideas stored up in the mind. The present system has little to boast of that it should dare to throw stones! The greater part of the learning may be 'honest', but assuredly most of it is very dull at the time and very useless afterwards. Take away from our Public Schools their discipline, their social intercourse, their splendid Games and Athletics, and you leave them very little of which England can feel proud.

Of course, as I have admitted, a boy may learn a long list of things by means of 'Loisette' or some other system: and—by the way—he usually 'scores' heavily! But it yet remains to be proved that his mind is any the worse off for it than that of the average boy who tries to learn up his text-book by rote, and only succeeds in remembering *half* of the lists even half-an-hour afterwards.

And as to 'honest learning' and really useful and sound methods—I think they will be found in abundance in Sections VI. to XXI. of this work. If any one chooses to ignore these pages, and to misuse one or more of the Systems on the subsequent pages, that is his look-out, not mine.

'*Parrot-like learning*', of which some Systems have been accused, is condemned in this book in no measured terms: it is to be found where some Memory-Systems are misused, but if there *are* places where it *does* flourish, they are our Schools, and, alas, our Universities as well. This is a general statement, for there are notable exceptions both among teachers and among learners.

Speaking for my own part, I know that I committed to memory a quantity of English Poetry (viz. pieces from Shakespeare and Milton and other great poets) of which the meaning never entered into my mind at all. I still can recall it nearly all, but it is only as it entered my mind then—as a mere mass of *sounds*, and occasionally as a line or two

written on a page: practically no ideas have come with the sound or the sight. Had I achieved the same result, of merely remembering the sounds, by *any* System, I cannot conceive that it could have been of *less* value to me now. Had I known what I know now (Section VII. foll.), e.g. that the *ideas* should have been *realised* first, the effect of the learning, and of the ideas and words learnt and remembered, might have been more precious to me than silver and gold. But no one ever told me, and, as it never occurred to me till quite recently, I never profited by it.

8. '*The means are more trouble than the end achieved: they are not worth while.*'

So thinks every lazy, unreflecting, self-satisfied son and daughter of Folly. Let me quote again from personal experience.

There was a time when I used to take Back-handers at Tennis in quite the wrong way; when at length I was told why*, I at first tried to acquire the right method without any definite plan of *how* best to acquire it. I therefore failed. Then I worked out a System for learning the right method step by step: and I put this System into practice. The results were not at once apparent, but now I have a fairly solid *foundation* to my stroke. Nay more: knowing the *why* and the *how*, I can help

* See 'Lessons in Lawn Tennis' (Upcott Gill), and my other works on Games.

others. I do not regret the labour and drudgery, which, however, would have been far lighter had I been told *how to practise* (XXXIX.). For the fruits are now showing themselves in the form of an improved standard of play.

Again, I once had a five-shilling lesson in stropping a razor; a small thing, you will say. Yes, but I have saved my razors and have had far better shaves ever since.

In Geography, again, I used never to be able to do Maps from memory: but I found out an easy System, and practised it carefully, and now I can draw them quite easily.

I need not multiply instances, but in each case I feel that

(a) the practice, though at first not very productive, has brought most satisfactory results in the end; and that

(b) had I, at the beginning, known *how to practise*, much of the drudgery and many of the mistakes and wastes of energy, would have been saved.

So, if you get hold of the right way to learn and to practise, and if you *do* learn and practise carefully, especially *in your many odd moments*, it will give a new interest to life and to these moments in particular, and the ultimate result will be that your memory will be greatly benefited.

That this ultimate result would be worth while, you cannot doubt: or, if you do, read what is said

in I., and in XLIII. foll., as to the value of the memory and of its cultivation.

Not only is the end achieved a real blessing, then, but the means to achieve the end are excellent in themselves.

9. '*I myself (or some others) have tried a System, and it was a failure.*'

This is quite likely, but

(a) you may have tried a bad System ;

(b) you may have tried a System which was good enough for certain people, but did not suit you or your particular subject ; or

(c) you may have tried a good System, but not properly—you may have misunderstood it, you may have practised it far too little for it to be of any real value, or you may have tried it—a fatal mistake—before you 'realised' (see XV.) the ideas which you were trying to remember. Or if, at the very outset, you tried to apply it to a somewhat difficult instance, no wonder you failed.

It must be remembered that the Systems are intended to *follow* the methods in Section VI. foll., if the Systems are to be used at all.

10. '*I already have a good enough memory.*'

Very well, then, if you (and others who have any dealings with you!) are *quite* contented, and also—mark this—have good reason to be contented, then all I can say is that this book, as I clearly state in the Preface, is not intended for *you*. Only, there is

just this. It *is* possible that you still have *some* faculties undeveloped: whether it be the faculty for arrangement (XII.), for seeing logical connexions (XIII.), or for picture-painting in the mind (XV.), or for sounds (such as words and names), I cannot say. But there is a possibility that you may be the better for developing any weaker faculty which you have. For a person who had these and the other faculties (see XLVI.) all equally fully developed would be a prodigy and unique.

And there is this also—you *may* at some time or other be called up to *teach others*: in that case you, who say you remember all things so easily, without knowing how, will probably be an execrably bad teacher: you will little understand *why* your pupils forget so many things, or even altogether fail ever to learn them. If you study the methods and the Systems, believe me you will be none the worse.

And, if anyone should say to me, 'This man or this woman can remember well enough without being conscious of a method or a System: why should not I?', I warn him against this fallacy. As well might you say that some genius of a Cricketer cuts splendidly without (as a rule) being really conscious of any difficulty, and therefore why should not *you*? It is not every one, I assure you, who is born with a genius for everything! And suppose you have *not* the genius for doing a thing well, then you must be content to spend time and toil in doing

the initial steps slowly and accurately—in laying for yourself those foundations which our friend the genius has found already laid for him; ‘he knoweth not how’. Those who, like myself, believe in the doctrine of Reincarnation would say that the person has developed his special power in a previous life or in previous lives. However that may be—and it seems to me quite satisfactory—, anyhow the person has the genius ready-made in *this* life.

II. ‘*But memory cannot be improved by practice : it is one of the gifts which a person either has or has not : he cannot acquire it for himself.*’

Of what ‘gift’ has this *not* been said? Of Poetry, of English Composition, of Piano-playing, of every game, of virtue itself, it has been said that ‘the skilled exponent’ *nascitur non fit*.

It is only half a truth.

It is a complete truth that it is not *every* kind of practice which can ‘make perfect’. Practice of the wrong kind never *can* make perfect.

But, on the other hand, there is nothing that can be done that cannot be improved *by practice of the right kind and under the right conditions*. Only, the practice *must* be of the right kind. Seeing, hearing, reasoning, arranging, and so on, all can be improved *if* we practise them in the right way.

But the right way? There’s the problem, which, in the case of memory, I do not profess to have

solved. But I hope I have given some materials that may help others to solve it.

Notice that few objectors give any reasons. They simply dictate and lay down a Law:—

'Do not use', say they, 'the Link-System, or the Rhyme-System, or any other System'.

But what of those strong faculties such as that for remembering things linked together by sound or by meaning (see XXIII.), or that for remembering things that Rhyme or that sound alike? Are we to leave these strong faculties unused when they might be so useful, just because *you*, forsooth, lay down a Law? What were these faculties given us for, if not to be employed for every possible good purpose? And is not 'remembering' a good purpose?

Again, my good Lawgiver, what of those myriad associations firmly impressed in our minds? There they are—we cannot help having them there. Are we to leave them unused when they might be so useful, just because *you* lay down a Law? What were these materials meant for if not to be employed for every possible good purpose? And is not 'remembering' a good purpose?

Are we to trust to chance for remembering everything, to do it all hap-hazard, in the dullest conceivable way, to leave grand powers within us undeveloped, rich materials within us untouched, to save no time by any System, and all because an unreflecting pedant has failed to grasp the Principles

of Psychology and Philology, or to observe what is offered every day for his observation?

No, dear readers, it is not a matter for the pedants to decide. It is for *you*, you yourselves and no others, to try the methods and even the Systems, to give them a fair trial, before you condemn. Only let me ask you one thing. If you would really *know* whether the methods or Systems may be useful or not, *do* be content to give up *some* time (there is lots to spare) to careful practice, and not to be impatient if the first steps are slow and apparently unprofitable. If you wish to work rapidly hereafter, you must be prepared to work patiently now. When you have planted the seed, do not pull it up immediately to see if it is yet a real plant.

Above all, do not imagine that all methods and systems will suit *you* equally well. Yours may be the sight-memory *par excellence*, or the sound-memory, or the arranging-memory, or the reasoning-memory. There are means of testing: do not expect that all will succeed equally well with you.

SECTION XLVIII. A FEW REFERENCE BOOKS.

FOR details with regard to methods and Systems, the reader is advised to look at some of these books, as well as at the Article in the Encyclopædia Britannica :—

Barter.—A Wonderful Memory and How to Acquire it (Simpkin, Marshall & Co.).

Granville.—The Secret of a Good Memory (Walter Scott).

* *Green.*—Memory and Its Cultivation (Kegan Paul).

Holbrook.—How to Strengthen the Memory (Fowler & Wells, New York, and Fowler, Ludgate Circus).

** *James.*—Talks on Psychology (Houghton Mifflin, Boston).

Kay.—Memory (Kegan Paul).

** *Knowlson.*—The Art of Thinking (Warne & Co.).

* *Loisette.*—Assimilative Memory (Larowe-Loisette).

Miles.—How to Prepare Essays, Lectures, Articles, Books, Speeches, and Letters (Rivingtons).

Miles.—Muscle, Brain, and Diet: A Plea for Simpler Foods (Sonnenschein, and the Macmillan Company of New York).

„ —The Training of the Body (do.).

Morrell.—Outlines of Mental Philosophy (Stewart).

Stokes.—Memory (Houlston).

** *Stout.*—Manual of Psychology (Clive).

* These works will be found especially useful.

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